

3/22/12

Aerovironment

Unmanned Aircraft Systems (UAS)
Evaluation Program

DOJ/NIJ.

Dr. Gabriel Torres (Program Mgr)

Ed Torner (Intech Sys) - in Austin, Tx.

AV - Gabe

Monday - AVAV



Color Thermal cameras

Digital Data Link (secure) encryptable

Questions -

① Thermal Imaging

- some technology as
S.Ct. said you can't
use w/out warrant?
- to detect a marijuana-grow
operation in a house

Yes. Some technology.

② How much of this info. is
trade-secret.

③ Case-law on privacy issues?

- Search (4th Am. Const)

FAA - COA (certificate of authorization)

FAA Authorization Bill signed 2/14/12

May 2012 - deadline - for grants w/ govt agencies

Summer 2012 - new COA process - streamlined

NIS - Aviation Technology Program

- guidelines for safe + lawful use

- privacy + 4th Amendment.

Lease Agreement - \$1.00 for 2 consecutive 6-month periods. -
(June - Oct 2012)

Ceiling - 400'

check case law.

UTPD Support

- ex - supplement course unit?

- Traffic crash - reconstruction from video.

- civil disorder events.

- ^{developing} crisis response.

DOJ

Technology Acceptance Plan

- HPD - [?] bad example.
- successful -
 - bring media + ACLU in advance.
- define the mission, & when it will be used.
+ who will be able to authorize it.

- Austin is only agency in the evolution program

Lease Agreement - w/ A.V.

- ins reqmt.
- procedures + processes - for 1) COA
 - 2) Public info/outreach

COA process -

DOJ - Mike Foshee
NHS Autism Program

- agmt to provide info. monthly to DOJ

Smiley, Allen

From: Draganfly Support Team [1]
Sent: Tuesday, October 11, 2011 5:26 PM
To: Cortez, Eric
Subject: Re: University of Texas at Austin utilizing a Draganfly product

SPO Cortez,
The University of Texas at Austin is one of our customers but they do not have any a Draganflyer X6, they have purchased some of our earlier models and components for other rc aircraft. The closest Draganflyer x6 to you would be at Texas A & M University. I could make inquiries to see if they would be able to meet with you.

Regards,
Kevin Lauscher
Police & Military Sales

Draganfly Innovations Inc.
2108 St.George Avenue
Saskatoon, SK, Canada S7M0K7
Toll Free: 1-800-979-9794
Int: 1-306-955-9907
Fax: 1-306-955-9906

<http://www.RCToys.com/>

<http://www.draganfly.com>

Business Hours: Monday - Friday 7:30am - 4:30pm (CST) This email and the associated attachments may contain information that is proprietary, privileged, confidential or otherwise protected from disclosure. If you are not the intended recipient or otherwise have received this message in error, you are not authorized to read, print, retain, copy or disseminate this message or any part of it. If you are not the intended recipient or otherwise have received this message in error, please notify us immediately, destroy any paper copies, and delete all electronic files of the message. Thank you. Draganfly Innovations Inc.

On Fri, 07 Oct 2011 08:29:31 -0600, "Cortez, Eric" <Eric.Cortez@austintexas.gov> wrote:

> Dear Sir/Ma'am:

>

>

>

> The technology unit at the Austin Police Department in Texas is always
> looking for new innovative products that could potentially enhance
> policing. We have recently begun preliminary research into the use of
> radio controlled aircraft to possibly supplement patrol and special
> units. In law enforcement, there are many possible situations where a
> drone could be deployed and utilized to both assist in lifesaving and
> aid in potentially deadly situations.

>

>

>

> While researching the Draganflyer X6, I saw on the Draganfly
> Innovations website that the University of Texas at Austin is listed
> as being one of your customers. The UT campus is located near our
> office. Our unit would very much like to arrange a meeting with the
> department at UT that is currently using a Draganflyer, so we could
> watch a live demonstration on how the Draganflyer performs and
> operates. Would it be possible to get the contact information for the
> department at UT utilizing the Draganflyer so a meeting could be arranged?

>

>

>

> Respectfully,

>

>

>
> SPO Eric Cortez #5904
> Police Technology Unit
> Austin Police Department
> (512) 974-4783 work | (512) 802-6018 pager
> Email: eric.cortez@austintexas.gov
>
> Supervisor: Sgt Scott Ogle | scott.ogle@austintexas.gov
> <mailto:scott.ogle@austintexas.gov>
>
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Smiley, Allen

From: Kimberly Mallett
Sent: Friday, October 21, 2011 7:57 AM
To: Cortez, Eric
Subject: Re: Robotics Demonstration

Howdy! I am just following up on the email exchange to see if you heard anything back from Dr. Murphy? She is currently on travel, but I want to make sure that we don't let this fall through the cracks. Please let me know how I can assist in getting this set up, as well as what timeframe is good for you so that I can begin looking at her calendar.

If you have any other questions, please let me know.

Thank you,
Kimberly

On Mon, Oct 17, 2011 at 1:31 PM, Kimberly Mallett <Kimberly.Mallett@atd.com> wrote:
Good Afternoon!

I have talked with Dr. Murphy and we want to do whatever we can to help. Dr. Murphy will be emailing you directly, but it will probably late tonight or tomorrow before she has a moment to get back with you. In the meantime, if you have any time constraints or thoughts on scheduling please let me know.

Thank you,
Kimberly

On Thu, Oct 13, 2011 at 10:11 AM, Cortez, Eric <Eric.Cortez@austintexas.gov> wrote:

Ms. Kimberly Mallett,

The technology unit at the Austin Police Department is always looking for new innovative products that could potentially enhance policing. We have recently begun preliminary research into the use of remote controlled aircraft to possibly supplement patrol and special units. Specifically, the Draganfly X6 has our attention. Our unit has discussed many situations in which a small aircraft, like the X6, could be utilized to assist in potentially deadly situations and utilized to offer lifesaving solutions.

I saw on the CRASAR website that Draganfly is a member of Robotics Without Borders. The technology unit would very much like to see the X6 in action as well as any other remote vehicle that could potentially benefit law enforcement. Would it be possible to set up a demonstration in College Station, focusing primarily on aerial vehicles? If a demonstration could be arranged, members from the technology unit and possibly some commanders and assistant chiefs would be in attendance. If a demonstration is possible, please let me know what needs to be done to make it work. Thank you.

Respectfully,

SPO Eric Cortez #5904

Police Technology Unit

Austin Police Department

(512) 974-4783 work | (512) 802-6018 pager

Email: eric.cortez@austintexas.gov

Supervisor: Sgt Scott Ogle | scott.ogle@austintexas.gov

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6/14/2012

Smiley, Allen

From: Tiara Richard [Tiara.Richard@arlingtontx.gov]
Sent: Monday, April 02, 2012 10:04 AM
To: Cortez, Eric
Cc: Christopher Cook; Chad Gann
Subject: RE: Arlington UAV

Hello. The Arlington Police Department UAV program is managed is Lt. Chad Gann. He can be reached at 817 459-5688 or email Chad.Gann@arlingtontx.gov. Good luck with the program.

Tiara Ellis Richard

Arlington Police Office of Communication
Media Relations Coordinator
Office 817 459-5624
Tiara.Richard@arlingtontx.gov



Working Together to Make Arlington Better

From: Cortez, Eric [mailto:Eric.Cortez@austintexas.gov]
Sent: Monday, April 02, 2012 9:46 AM
To: Tiara Richard
Subject: Arlington UAV

Tiara Richard,

I'm trying to get in contact with the team or unit in charge of the UAV at the Arlington Police Department. The Austin Police Department is working to acquire an UAV of our own and would like to seek advice and input from your unit. Could you please direct me to whoever oversees the UAV project? Thank you.

Respectfully,

SPO Eric Cortez #5904

Police Technology Unit
Austin Police Department
(512) 974-4783 work | (512) 802-6018 pager
Email: eric.cortez@austintexas.gov

Supervisor: Sgt Scott Ogle | scott.ogle@austintexas.gov

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6/14/2012

Smiley, Allen

From: Chad Gann [Chad.Gann@arlingtontx.gov]
Sent: Tuesday, April 03, 2012 12:29 PM
To: Cortez, Eric; Jesse Manning; John McGrath
Cc: Ogle, Scott; Cochran, Pat
Subject: RE: Arlington UAV

Hello Officer Cortez:

I have asked Officer Jesse Manning, one of our UAS pilots to give you a call to discuss. We will assist you in any way possible and look forward to meeting you soon.

We are in the training phase with our UAS as we speak. Please let me know should you not hear from officer Manning.

Regards,

Lieutenant Chad Gann
Acting Deputy Chief
Operations Support Division
Arlington, TX Police Department
 817.459.5688(ofc) OR 817.459.5583 (ofc)

From: Cortez, Eric [mailto:Eric.Cortez@austintexas.gov]
Sent: Tuesday, April 03, 2012 9:26 AM
To: Chad Gann
Cc: Ogle, Scott; Cochran, Pat
Subject: Arlington UAV

Lt. Chad Gann,

Greetings, I'm an Austin police officer currently assigned to the Technology Unit. We are in the process of receiving a sUAV from Aerovironments for testing and evaluation purposes. Currently, we are juggling the lease agreement, policy, PR campaign, and COA application.

I sat in on AUVSI webinar on March 14th and heard you speak about Arlington PD's UAV. The webinar was very insightful, and I'll probably be seeking advice from you when we encounter hiccups or snags in the future. UAVs in law enforcement seem to be creeping into the limelight, and we are excited to be amongst the few pioneer departments in the state.

Our LT and members of the APD command staff will be traveling to Arlington to visit your department in the near future. Would it be possible to meet and discuss the UAV application process, and possibly see a demonstration of your UAVs capabilities? We are not quite sure on the date yet, but we'll let you know as soon as we can. Thank you and we look forward to working with you in the future.

Respectfully,

SPO Eric Cortez #5904

Police Technology Unit
 Austin Police Department
 (512) 974-4783 work | (512) 802-6018 pager
 Email: eric.cortez@austintexas.gov
 Supervisor: Sgt Scott Ogle | scott.ogle@austintexas.gov

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Tiara Ellis Richard
Arlington Police Office of Communication
Media Relations Coordinator
Office 817 459-5624
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Sent: Monday, April 02, 2012 9:46 AM
To: Tiara Richard
Subject: Arlington UAV

Tiara Richard,

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6/14/2012

Smiley, Allen

From: Cortez, Eric
Sent: Wednesday, May 09, 2012 8:25 PM
To: Ogle, Scott; Cochran, Pat
Subject: CRASAR Summer Institute Wednesday, May 16
Attachments: summer institute 2012.pdf

LT,

Dr. Robin Murphy, the director of the Center for Robot-Assisted Search and Rescue (CRASAR), has invited the Austin Police Department to participate in their Emergency Informatics Summer Institute, specifically the robotics demonstration and visioning session occurring May 16. The CRASAR team has invited multiple first responder agencies and robotics companies to participate in the event. Among the attending robotics companies will be iRobot demoing their Packbot's IR and Haz-Mat capabilities. Per our conversation with Dr. Murphy, the APD Police Technology Unit will be attending Wednesday's robotics demonstrations and visioning session.

On Wednesday, Dr. Murphy has planned a day of hands-on robotic demonstrations of unmanned aerial vehicles, ground vehicles, and watercraft. Three different UAVs, a few different types of ground robots, and a submersible sonar equipped vehicle will all be set up for full demonstration. The hands-on demonstrations will run from 9:00am – 12:00pm. Dr. Murphy has stated that there will be coffee and donuts available in the morning.

A working lunch will be provided, followed by the visioning portion of the day. Dr. Murphy has invited professors and grad students from Texas A&M's robotics department to come out and speak with the law enforcement and first responders. The goal of the session is to get our direct input on the robots; to see what we like, what we don't like, and what we would like to see added, changed, or created. The students will also be bringing various testing equipment to measure our physical and neurological responses to operating the robotic equipment. This is our chance to give direct input and help shape the future of law enforcement robotics.

Some news media, to include Austin's FOX 7, will be out on Wednesday as well to possibly do a story on law enforcement and emerging technologies. The news media will most likely be attending for the robotics demonstration portion of the event.

Attached is the flyer for the event. Below are links to CRASAR and Disaster City where the event will be held:

CRASAR - <http://crasar.org/>

Google Map of Disaster City - <http://g.co/maps/3cndu>

Respectfully,

SPO Eric Cortez #5904

Police Technology Unit

Austin Police Department

(512) 974-4783 work | (512) 802-6018 pager

Email: eric.cortez@austintexas.gov

Supervisor: Sgt Scott Ogle | scott.ogle@austintexas.gov

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6/13/2012

Emergency Informatics Summer Institute



Technology Capabilities and Demonstrations of Innovations for Chemical Biological Radiological Nuclear Response

Objective:

The objective is to bring together industry and academia with practitioners to identify existing and emerging technologies that can be used for CBRN response and any constraints or opportunities on those technologies. Expected outcomes are a roadmap for the Department of Homeland Security (DHS), improved domain knowledge and exposure to university research innovations and potential collaborations. The event will have three aspects: a capability demonstration, a visioning session, and a practitioner-led exercise with a simulated chemical train derailment.

Schedule:

Disaster City® located at Stillwater Rd, College Station, Texas.
Sign In at Building 118

May 16, 2012

9:00 a.m. to 12:00 p.m. Capability Demonstrations at Triage Field. Technologists will interactively demonstrate and discuss their innovations with responders and observers.

12:00 p.m. to 5:00 p.m., Building 118 Working Lunch and **on-site visioning exercise** with Texas Task Force 1, Dallas Fire Rescue, Georgetown Fire Rescue, Texas Commission on Environmental Quality, Austin Police Department, and HAZMAT experts from TEEX. Domain experts will review capability demonstrations and provide feedback prior to visioning. The visioning session will result in a “surprise” practitioner-directed integrated technology exercise for May 17.

May 17, 2012

(Staging area to be announced on May 16, 2012)

9:00AM to 4:00PM Exercise directed by Chief David Martin centered around the chemical trail derailment prop at Disaster City® but including the surrounding urban props and pond to

Texas A&M Emergency Informatics EDGE® Innovation Center

incorporate actual stand-off distances, exposure hazards, and impact on watersheds. The exercise will be designed to be as realistic as possible in order to understand when technology doesn't work- one aspect of the realism is that Chief Martin is not telling us what is the exact scenario and where we will be working from. Chemical simulants will be in play and radiological sources may be available. The exercise will be non-stop and lunches brought to participants in the field. If time permits, a second exercise will be held.

5:00-6:00PM After action review

May 18

8:00AM – 11:00AM. Follow up experimentation with individual technologies as desired at the Triage Field will occur from with an after action review over a working lunch.

All gear to be off-site by 3:00PM

For Assistance with this Summer Institute

The Summer Institute is open to the Emergency Informatics community at Texas A&M and to EDGE® members by invitation. Registration is required for access to Disaster City®:

<http://teex.org/teex.cfm?pageid=training&area=teex&templateid=14&Division=USAR&Course=RES900>

For assistance regarding the Summer Institute, please contact edge@tamu.tees.edu.

Smiley, Allen

From: Haver, Jamie
Sent: Monday, May 21, 2012 5:32 PM
To: Cochran, Pat
Subject: Re: Special attention to patrol shifts: Unmanned Aerial Vehicles
Categories: UAV

SPO Marcus Davis is a pilot and would be interested in this.

Have a good day! ☺

Jamie Haver
512-348-9122

-----Original message-----

From: "Cochran, Pat" <Pat.Cochran@austintexas.gov>
To: APD Lieutenants <APD.Lieutenants@austintexas.gov>, APD Sergeants <APDSergeants@austintexas.gov>
Cc: "Cortez, Eric" <Eric.Cortez@austintexas.gov>, "McIlvain, Chris" <Chris.McIlvain@austintexas.gov>
Sent: Mon, May 21, 2012 22:05:54 GMT+00:00
Subject: Special attention to patrol shifts: Unmanned Aerial Vehicles

Patrol Lt's and Sgt's,

Please pass this on to any interested officer or corporal.

APD is currently evaluating whether small Unmanned Aerial Vehicles would be useful as a patrol asset. There are small UAV's that provide excellent video that are designed to be carried in a patrol car and deployed with minutes of being needed at a particular scene. These are not like a "Predator" drone that could be flown all over the city. These UAV's typically are quad rotor designed and are for flights of about 30 minutes on a battery charge. They are also intended for use within very close range of the operator and observer. A typical scenario would be to deploy them at a standoff distance of a few hundred feet, such as checking the roof of a building from across the street. These UAV's are in no way a replacement for a helicopter, but they can be launched to cover the interim time before the helicopter is on scene, or could be used in applications that don't necessarily require a helicopter.

One of the FAA requirements for the use of UAV aircraft within controlled airspace (airports with a control tower) is that a licensed Private or Sport Pilot be on scene with the UAV and in communication the flight controllers for ABIA.

We have no established timeline, and no vendor in particular at this point. In order to make the program worthwhile at pursuing, we would need Licensed Pilots to participate. Since these UAV's are a patrol asset and would be carried by trained patrol personnel, if you have **licensed pilots** on your patrol shifts that would be interested in being part of any future program that is developed, please have them email me or Officer Eric Cortez. I just need to know their name and where they work so we can see if we even have enough pilots to make a program work.

6/13/2012

This is pretty much the first step in a long project, so it's nothing that will happen in the next few months.

If you would like to see an example of a UAV click on this link: <http://www.youtube.com/watch?v=ZzHx7AxHmOA>. This is just one vendor of many, and all have similar design and features.

As always, if you have suggestions or comments, please use the police technology suggestion box.

Thanks!

Pat

Lt. Patrick Cochran #2560

Police Technology and Data Control Units
Terminal Agency Coordinator (TAC)
Austin Police Department
(512) 974-6812 work | (512) 802-4240 pager
Email: pat.cochran@austintexas.gov

Note: As of Aug. 15 my e-mail address will be
pat.cochran@austintexas.gov

Smiley, Allen

From: Renfro, Courtney
Sent: Monday, May 21, 2012 5:27 PM
To: Cochran, Pat
Subject: Re: Special attention to patrol shifts: Unmanned Aerial Vehicles
Categories: UAV

I have no pilots other than myself. I would enjoy being a part of any future program like this if it were to be developed.

Sgt. C. Renfro 3362
Sent from my iPhone

On May 21, 2012, at 5:06 PM, "Cochran, Pat" <Pat.Cochran@austintexas.gov> wrote:

Patrol Lt's and Sgt's,

Please pass this on to any interested officer or corporal.

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Note: As of Aug. 15 my e-mail address will be
pat.cochran@austintexas.gov

Smiley, Allen

From: Davis, Marcus [APD]
Sent: Monday, May 21, 2012 5:39 PM
To: Haver, Jamie
Cc: Cochran, Pat
Subject: RE: Special attention to patrol shifts: Unmanned Aerial Vehicles

Categories: UAV
Attachments: ic_list_big_grin.png



ic_list_big_grin.png
(712 B)

Lt Cochran,

I am interested in helping out with this new program. I am currently on the E600's and carry a current private pilot certificate. If there is anything else you need, please let me know. Thanks.

Marcus Davis #5905
Austin Police Department

-----Original Message-----

From: Haver, Jamie
Sent: Mon 5/21/2012 5:33 PM
To: Davis, Marcus [APD]
Subject: Fw: Special attention to patrol shifts: Unmanned Aerial Vehicles

Send Lt Cochran your pilot and current shift information

Have a good day!
Jamie Haver
512-348-9122 <tel:5123489122>

-----Original message-----

From: "Cochran, Pat" <Pat.Cochran@austintexas.gov>
To: APD Lieutenants <APD.Lieutenants@austintexas.gov>, APD Sergeants <APDSergeants@austintexas.gov>
Cc: "Cortez, Eric" <Eric.Cortez@austintexas.gov>, "McIlvain, Chris" <Chris.McIlvain@austintexas.gov>
Sent: Mon, May 21, 2012 22:05:54 GMT+00:00
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pat.cochran@austintexas.gov <<mailto:pat.cochran@austintexas.gov>>

Smiley, Allen

From: Orten, Robin
Sent: Tuesday, May 22, 2012 7:30 AM
To: Gage, Todd
Cc: Cochran, Pat
Subject: FW: Special attention to patrol shifts: Unmanned Aerial Vehicles
Categories: UAV

This Officer is interested in this.

From: Carter, Clay
Sent: Tuesday, May 22, 2012 6:32 AM
To: Orten, Robin
Subject: RE: Special attention to patrol shifts: Unmanned Aerial Vehicles

It's been about 20 years since I've flown but I am a licensed private pilot. I've thought we needed these since I first saw them a couple of years ago. Definately interested.

From: Orten, Robin
Sent: Tue 5/22/2012 5:34 AM
To: Arroyo, Pedro; Boehm, Justin; Carter, Clay; Garrison, Earl; Jackoskie, George; Juusola, Christopher; McFarland, Chris; Powell, Zane; Shows, Joshua; Williams, Blayne
Subject: FW: Special attention to patrol shifts: Unmanned Aerial Vehicles

Any thoughts?

From: Cochran, Pat
Sent: Monday, May 21, 2012 5:06 PM
To: APD Lieutenants; APD Sergeants
Cc: Cortez, Eric; McIlvain, Chris
Subject: Special attention to patrol shifts: Unmanned Aerial Vehicles

Patrol Lt's and Sgt's,

Please pass this on to any interested officer or corporal.

APD is currently evaluating whether small Unmanned Aerial Vehicles would be useful as a patrol asset. There are small UAV's that provide excellent video that are designed to be carried in a patrol car and deployed with minutes of being needed at a particular scene. These are not like a "Predator" drone that could be flown all over the city. These UAV's typically are quad rotor designed and are for flights of about 30 minutes on a battery charge. They are also intended for use within very close range of the operator and observer. A typical scenario would be to deploy them at a standoff distance of a few hundred feet, such as checking the roof of a building from across the street. These UAV's are in no way a replacement for a helicopter, but they can be launched to cover the interim time before the helicopter is on scene, or could be used in applications that don't necessarily require a helicopter.

One of the FAA requirements for the use of UAV aircraft within controlled airspace (airports with a control tower) is that a licensed Private or Sport Pilot be on scene with the UAV and in communication the flight controllers for ABIA.

6/13/2012

We have no established timeline, and no vendor in particular at this point. In order to make the program worthwhile at pursuing, we would need Licensed Pilots to participate. Since these UAV's are a patrol asset and would be carried by trained patrol personnel, if you have ***licensed pilots*** on your patrol shifts that would be interested in being part of any future program that is developed, please have them email me or Officer Eric Cortez. I just need to know their name and where they work so we can see if we even have enough pilots to make a program work.

This is pretty much the first step in a long project, so it's nothing that will happen in the next few months.

If you would like to see an example of a UAV click on this link: <http://www.youtube.com/watch?v=ZzHx7AxHmOA>. This is just one vendor of many, and all have similar design and features.

As always, if you have suggestions or comments, please use the police technology suggestion box.

Thanks!

Pat

Lt. Patrick Cochran #2560

Police Technology and Data Control Units
Terminal Agency Coordinator (TAC)
Austin Police Department
(512) 974-6812 work | (512) 802-4240 pager
Email: pat.cochran@austintexas.gov

Note: As of Aug. 15 my e-mail address will be
pat.cochran@austintexas.gov

Smiley, Allen

From: Cortez, Eric
Sent: Tuesday, May 22, 2012 2:26 PM
To: 'Torres Gabriel'
Cc: 'Steven.ctr.Pansky@faa.gov'; 'david.morton@faa.gov'; Ogle, Scott; Cochran, Pat
Subject: RE: Update on FAA-DOJ Agreement for Small UAS and Contact Information for FAA Representatives - Austin PD

Gabriel,

We're glad to hear that progress is being made within the FAA. I read through the updates and am eager to get started on the COA process. Would this Friday, May 25th, around 2:00pm CST work for a conference call?

Respectfully,
Eric Cortez

-----Original Message-----

From: Torres Gabriel [mailto:
Sent: Monday, May 21, 2012 12:16 PM
To: Cortez, Eric
Cc: Steven.ctr.Pansky@faa.gov; david.morton@faa.gov
Subject: Update on FAA-DOJ Agreement for Small UAS and Contact Information for FAA Representatives - Austin PD

Eric: Hope all is well on your end. I wanted to give you an update of happenings on the FAA side of things related to the small UAS Evaluation Program. Some very good progress has been made this past week. On Monday May 14 the FAA announced that it had reached an agreement with DOJ for use of small UAS for law enforcement agencies - this is the agreement that we had been talking about being in the works since I met with you in March. See the attached PDFs with the FAA announcement and also an article from Tim Adelman (from NIJ Aviation Technology Program) with more details about the agreement. The links for these documents are <http://www.faa.gov/news/updates/?newsId=68004> for the FAA announcement and <http://www.auvsi.org/news/> for Tim Adelman's article (again, PDFs of both articles attached).

In a related note, I wanted to put you in touch with Steve Pansky and Dave Morton from the FAA. They both work closely on COAs for Unmanned Aircraft Systems. I would recommend you start your communication with Steve Pansky as he's the lead for COAs for law enforcement nationwide and he can provide you information on the steps to move forward on the COA application for your agency. Steve and David's contact info is pasted at the bottom of this email and they're also copied in this email. I would recommend that you start a dialogue with them soon, in anticipation of finalizing the administrative side of the Lease Agreement between APD and AV. We should set up a time to talk on the phone to catch up on the status of this program, the logistics of the Lease Agreement, and address any issues. Please let me know what days and times work for you this week.

Steve and David: I'd like to make an introduction here to Senior Police Officer Eric Cortez from Austin PD. He's the main POC for APD for the Small UAS Evaluation Program and I'm sure he would appreciate any support you can provide him in terms of the process of setting up a COA. His contact information is pasted below.

Thank you all. AV will be providing a packet of information related to Qube that answers the product-specific questions for the COA

application. Please let us know how else AV can support this COA process as we move forward.

Sincerely,

Gabriel

Steve Pansky's Contact Information:

Steve Pansky
Senior Air Traffic Control Analyst
Law Enforcement/SAW-EC Liaison
B3 Solutions supporting
Federal Aviation Administration
Unmanned Aircraft Systems Group, UAS/AJV-13
775-815-3606
Steven.ctr.Pansky@faa.gov

Dave Morton's Contact Information:

David B. Morton
Aviation Safety Inspector, AFS-407
Unmanned Aircraft Systems Safety,
470 L'Enfant Plaza, Suite 3200
Washington, DC 20024
Desk: (202) 385-4356
FAX: (202) 385-4559
E-Mail: david.morton@faa.gov

Eric Cortez's Contact Information:

SPO Eric Cortez #5904
Police Technology Unit
Austin Police Department
(512) 974-4783 work | (512) 745-4737 cell
(512) 802-6018 pager
Email: eric.cortez@austintexas.gov

Smiley, Allen

From: Cortez, Eric
Sent: Friday, February 24, 2012 10:57 AM
To: Ogle, Scott; Cochran, Pat
Subject: Fwd: Qube program

Wooo Hooo!

Sent from my iPhone

Begin forwarded message:

From: Dave Wilbur < >
Date: February 24, 2012 10:12:35 AM CST
To: Eric Cortez <eric.cortez@austintexas.gov>
Cc: Torres Gabriel < >
Subject: Qube program

Dear Officer Cortez,
Following up on the Qube Small Unmanned Aircraft System and the corresponding Evaluation Program, we have completed our interview process and have down-selected to a small group of agencies to participate in the program. **I'm pleased to inform you that the Austin Police Department is part of that selected group.**

In the next few weeks you will receive a Lease Agreement that will provide specific details regarding the Qube Evaluation Program, including our expectations with regard to your agency's commitments as a program participant. When you receive your "Agreement", please review it and let us know if you have any questions or concerns.

I also wanted to introduce you to Gabriel Torres, who is the Product Manager for the Qube Program. I have copied him on this email so you would have his email address. He will be coordinating with you in the future.

We look forward to working with you in the future.

Dave Wilbur

Smiley, Allen

From: Ogle, Scott
Sent: Friday, February 24, 2012 11:21 AM
To: Cortez, Eric; Cochran, Pat
Subject: RE: Qube program

Good news indeed. Your hard work and diligence is paying off!!! Thanks.

Sgt. Ogle

From: Cortez, Eric
Sent: Friday, February 24, 2012 10:58
To: Ogle, Scott; Cochran, Pat
Subject: Fwd: Qube program

Wooo Hooo!

Sent from my iPhone

Begin forwarded message:

From: Dave Wilbur <>
Date: February 24, 2012 10:12:35 AM CST
To: Eric Cortez <eric.cortez@austintexas.gov>
Cc: Torres Gabriel <>
Subject: Qube program

Dear Officer Cortez,
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I also wanted to introduce you to Gabriel Torres, who is the Product Manager for the Qube Program. I have copied him on this email so you would have his email address. He will be coordinating with you in the future.

We look forward to working with you in the future.

Dave Wilbur

6/13/2012

Smiley, Allen

From: Ogle, Scott
Sent: Friday, February 24, 2012 11:45 AM
To: Cortez, Eric; Cochran, Pat
Subject: RE: Qube program

A logical next-step is to develop a policy for drone use. We'd probably want to borrow some privacy elements from HALO with public safety exclusions built in (which what the drone would be used for i.e. swat callouts). Here some food for thought:

<http://www.nytimes.com/roomfordebate/2012/02/20/civilian-drones-in-the-united-states/drones-can-be-scary-and-useful>

From: Cortez, Eric
Sent: Friday, February 24, 2012 10:58
To: Ogle, Scott; Cochran, Pat
Subject: Fwd: Qube program

Wooo Hooo!

Sent from my iPhone

Begin forwarded message:

From: Dave Wilbur <_____] >
Date: February 24, 2012 10:12:35 AM CST
To: Eric Cortez <eric.cortez@austintexas.gov>
Cc: Torres Gabriel <_____] >
Subject: Qube program

Dear Officer Cortez,
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We look forward to working with you in the future.

Dave Wilbur

6/13/2012

Smiley, Allen

From: Dranguet, Ben
Sent: Friday, March 09, 2012 6:08 PM
To: Cochran, Pat
Subject: UAS Info
Attachments: Document2.doc
FYI

6/13/2012

Proposal Will Impact Law Enforcement UAS Application Process



Although Congress passed a Federal Aviation Administration (FAA) bill into law last month requiring the FAA to expedite the issuance of certificates of authorization (COA) for law enforcement and other public operators, the FAA recently released a proposed [Advisory Circular](#) which creates new hurdles for law enforcement that want to operate an aircraft, including UAS. The public comment period on the proposed advisory circular closes on April 13. [Click here](#) for directions on how to submit comments for the record.

In particular, paragraph 10(b) of the proposal requires all police departments, including sheriff's departments, and other first responders, to get a written verification of their status as a public entity from their state attorney general or other qualified state office. This verification will be required for all COA applications. This new onerous requirement is unnecessary and will delay law enforcement's ability to use a UAS, not to mention the fact that a duly elected sheriff will bristle at the idea that they need to get verification of their status as a law enforcement agency from the state attorney general.

Also, the proposed advisory circular will require law enforcement agencies that want to contract out their UAS services under provision 8(b) to give their contractors a written declaration of their public aircraft status, which shifts liability to the contracting government entity. Without this written declaration being on file, the FAA will not consider the contractors UAS a public aircraft, which means all civil aviation regulations (and penalties) will come into effect.

The contractor must file the written declaration with an FAA Flight Standards District Office, and the declaration should include the name of the operator, aircraft type, name of the aircraft owner, the aircraft's registration number (it's unclear if the FAA plans on requiring all UAS, including small UAS to get a registered "N" number), the date of the contract with the law enforcement or public entity, the date of the proposed first flight, the nature of the operation, the date the contract ends, and the name and contact information for the government entity declaring the public aircraft status.

The Association for Unmanned Vehicle Systems International (AUVSI) plans on submitting comments to this proposed advisory circular, and they encourage you to do so as well. Law enforcement and other public users will be an important market for UAS, and the FAA should work on making the process easier for public UAS operators, not more burdensome. If you have any questions or would like any more information about this proposal, email advocacy@auvsi.org

Smiley, Allen

From: Cortez, Eric
Sent: Tuesday, April 03, 2012 9:26 AM
To: 'chad.gann@arlingtontx.gov'
Cc: Ogle, Scott; Cochran, Pat
Subject: Arlington UAV

Lt. Chad Gann,

Greetings, I'm an Austin police officer currently assigned to the Technology Unit. We are in the process of receiving a sUAV from Aerovironments for testing and evaluation purposes. Currently, we are juggling the lease agreement, policy, PR campaign, and COA application.

I sat in on AUVSI webinar on March 14th and heard you speak about Arlington PD's UAV. The webinar was very insightful, and I'll probably be seeking advice from you when we encounter hiccups or snags in the future. UAVs in law enforcement seem to be creeping into the limelight, and we are excited to be amongst the few pioneer departments in the state.

Our LT and members of the APD command staff will be traveling to Arlington to visit your department in the near future. Would it be possible to meet and discuss the UAV application process, and possibly see a demonstration of your UAVs capabilities? We are not quite sure on the date yet, but we'll let you know as soon as we can. Thank you and we look forward to working with you in the future.

Respectfully,

SPO Eric Cortez #5904

Police Technology Unit
 Austin Police Department
 (512) 974-4783 work | (512) 802-6018 pager
 Email: eric.cortez@austintexas.gov

Supervisor: Sgt Scott Ogle | scott.ogle@austintexas.gov

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From: Tiara Richard [mailto:Tiara.Richard@arlingtontx.gov]
Sent: Monday, April 02, 2012 10:04 AM
To: Cortez, Eric
Cc: Christopher Cook; Chad Gann
Subject: RE: Arlington UAV

Hello. The Arlington Police Department UAV program is managed is Lt. Chad Gann. He can be reached at 817 459-5688 or email Chad.Gann@arlingtontx.gov. Good luck with the program.

Tiara Ellis Richard

Arlington Police Office of Communication
 Media Relations Coordinator
 Office 817 459-5624
Tiara.Richard@arlingtontx.gov

6/13/2012

One Mind
One Heart
One Voice

Working Together to Make Arlington Better

From: Cortez, Eric [mailto:Eric.Cortez@austintexas.gov]
Sent: Monday, April 02, 2012 9:46 AM
To: Tiara Richard
Subject: Arlington UAV

Tiara Richard,

I'm trying to get in contact with the team or unit in charge of the UAV at the Arlington Police Department. The Austin Police Department is working to acquire an UAV of our own and would like to seek advice and input from your unit. Could you please direct me to whoever oversees the UAV project? Thank you.

Respectfully,

SPO Eric Cortez #5904

Police Technology Unit
Austin Police Department
(512) 974-4783 work | (512) 802-6018 pager
Email: eric.cortez@austintexas.gov

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6/13/2012

Smiley, Allen

From: Chad Gann [Chad.Gann@arlingtontx.gov]
Sent: Tuesday, April 03, 2012 12:29 PM
To: Cortez, Eric; Jesse Manning; John McGrath
Cc: Ogle, Scott; Cochran, Pat
Subject: RE: Arlington UAV

Hello Officer Cortez:

I have asked Officer Jesse Manning, one of our UAS pilots to give you a call to discuss. We will assist you in any way possible and look forward to meeting you soon.

We are in the training phase with our UAS as we speak. Please let me know should you not hear from officer Manning.

Regards,

Lieutenant Chad Gann
Acting Deputy Chief
Operations Support Division
Arlington, TX Police Department
817.459.5688(ofc) OR 817.459.5583 (ofc)

From: Cortez, Eric [mailto:Eric.Cortez@austintexas.gov]
Sent: Tuesday, April 03, 2012 9:26 AM
To: Chad Gann
Cc: Ogle, Scott; Cochran, Pat
Subject: Arlington UAV

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SPO Eric Cortez #5904

Police Technology Unit
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(512) 974-4783 work | (512) 802-6018 pager
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Tiara Ellis Richard
Arlington Police Office of Communication
Media Relations Coordinator
Office 817 459-5624
Tiara.Richard@arlingtontx.gov

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One Heart
One Voice

Working Together to Make Arlington Better

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Sent: Monday, April 02, 2012 9:46 AM
To: Tiara Richard
Subject: Arlington UAV

Tiara Richard,

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Respectfully,

SPO Eric Cortez #5904
Police Technology Unit
Austin Police Department
(512) 974-4783 work | (512) 802-6018 pager
Email: eric.cortez@austintexas.gov

Supervisor: Sgt Scott Ogle | scott.ogle@austintexas.gov

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6/13/2012

Smiley, Allen

From: Buell, John
Sent: Wednesday, May 02, 2012 7:39 PM
To: Cochran, Pat; Miesse, Eric
Cc: Deaton, Stephen
Subject: UAV/Drone Pilot Program

Attachments: image.jpeg; ATT1448415.txt; image.jpeg; ATT1448416.txt; image.jpeg; image.jpeg; ATT1448417.txt; image.jpeg; ATT1448418.txt; image.jpeg



image.jpeg (480 KB)



ATT1448415.txt (97 B)



image.jpeg (415 KB)



ATT1448416.txt (102 B)



image.jpeg (1 MB)



image.jpeg (235 KB)



ATT1448417.txt (66 B)



image.jpeg (316 KB)



ATT1448418.txt (66 B)



image.jpeg (462 KB)

UAV/Drone Pilot Program

Hello sir,

I'm John Buell, currently assigned to the F700's as a SPO with approximately 15 years with the department. Lt. Eric Miesse suggested I contact you as your over the technology unit and over see the UAV/Drone pilot program. My shift has just started going through the digital car training and were told about the plans for drones being looked at for patrol. I've been flying radioed controlled fixed wings for approximately five years and multi-rotors now for the last year and a half. I now build these aerial photography fixed wings and Quadcopter in my off time and have started somewhat of my own business. I'm an active member in a worldwide network of multi-rotor pilots and have learned a lot of current and proposed FAA regulations governing the restrictions to multi-rotors. I know the current FAA regulations of "radioed controlled" limiting their flights to LOS with 200' limit. I'm also familiar with FAA's future restrictions on limiting the size to these type RC Unmanned Aerial Vehicles to 2000 grams or 4.5 or so pounds in 2015. For larger UAVs of this sort the FAA will require a UAV pilot's license. The FAA currently has a list of authorized UAV/drone approved agencies and I've seen APD is not listed.

The drone/UAV business has erupted in the last year. The market has been flooded with affordable electronics allowing very inexpensive multi-rotors parts for hobbyists and aerial photographers. These multi-rotors are flying computers with flight controls to assist the pilots with stabilizing flight to complete autonomous flights with QPS guided waypoints. They are also precision calibrated flight systems which require flight checks, regular maintenance, flight control firmware updates, and calibrations from the balancing motors to the propellers. These computer controlled air vehicles are very vulnerable to damage from transport, crashes, and untrained or non-proficient pilots.

So I know what you're thinking and yes this is a pitch where I want to let you know I'm very interested in being a part of the ground floor where these drone/UAVs are rolled out to the street troops and specialized units. I have worked in Street Response, OCD, EOD/Special Operations, and Executive Protection and see the need for these tools for officer safety and mission success. I'm also currently a SGT with the Texas Army National Guard assigned to the 6th WMD CST based out of Camp Mabry. Just last weekend during the American Hero Days at Camp Mabry I demoed my own built Quadcopter to the TAG Texas Adjutant General, Major General John F. Nichols. He's a two star general which commands all Army and Air Guard troops for Texas. He instructed me to put a business plan together for buying my Quadcopter and issuing them to Army Guard counter drug Teams, WMD response teams, and Camp Security. This was a quad I purchased the parts for and built from scratch with a control range of 1.5-6 miles high definition live feed and recorded video. It's capable of continuous flight for 10-15 min on battery power all under 2000 grams.

I could see the need for creating a new unit for these Aerial Vehicles both multi-rotors and fixed wing. I have seen new units come and go in this department, and one key factor in a units survivability is its operational cost verses the service it's providing. The Qube Drone is a great UAV which has lots of bells and whistles, but even the latest and greatest computer based equipment fail and will need repair. These companies not only sell these systems but make their money with repairs and service plans. For the cost of one \$30k-\$40k Qube someone with the right training and motivation could equip a whole sector with the same functioning aerial vehicle. This same person or persons could maintain, repair, update/upgrade the UAV fleet as needed. These persons could provide roll out pilot selection and training, requalification, and perform advanced/specialized piloting assignments where advanced techniques and knowledge of the UAV is required (swat calls, special events, aerial surveillance, aerial crime scene documentation and surveillance) all these tasks can be provided at a fraction of the cost compared to manned aircraft. I think the Qube Drone or any other company backed drones are very nice but all are made with the same electronic components from Hong Kong that I can order and install at a fraction of the cost. The only difference is their wrapping and high dollar advertising. OCD has found repairing and upgrading electrics like body mics, micro cameras, Kel kits, and other surveillance equipment is best kept in house. This makes repairs faster, getting the equipment back to the people that need it. It also allows for tailor made equipment or modifications for our department or mission needs. An example of this would be to use our marked units tough books modified as a monitor with data downlink to fly a patrol drone. I'm a firm believer of always having positive control of your aerial vehicle and not allowing a computer program to fly the machine as the Qube system uses. These drones are very dangerous and should be handled with the utmost respect. Failsafe systems are in place to limit accidents and lower liability but will never eliminate danger. Pilots should be selected not elected to operate these aerial systems. Certain skills are needed to pilot these systems through FPV First Person View and LOS Line of Sight. Not everyone will have the required skills to safely pilot a drone. These large drone companies try and take the piloting out of flying these aerial vehicles. This idea makes them appeal to a larger client base quickly making the sale before enough research has been done therefore locking the client into a long term deal relying on the company for everything. Please don't take me wrong, if the decision has been made to invest in these drones/UAVs, that's great, but cost for repairs and maintenance can be saved by having it done in house.

I would also mention ideas for funding for a drone/UAV program. While I was assigned to Special Operations Division, working in the WMD field, I was able to write dozens of grants for various sources. One funding source I was able to get a large amount of funds from was the Capital Area Council of Governments (CAPCOG). This organization is always searching for funding ideas in the public safety field. The UAV for public safety use would be a very popular topic and would get backed without much effort in my opinion.

My contact information:

John Buell 3487
Cell 512-825-3487
Pager 512-802-4153
Home 512-303-3255

So I guess now would be a good time to show you some proof to what I've been rambling on about.

This video link is my business teaser video short and sweet.

http://www.youtube.com/watch?v=mpZe-SdNPqc&feature=youtube_gdata_player

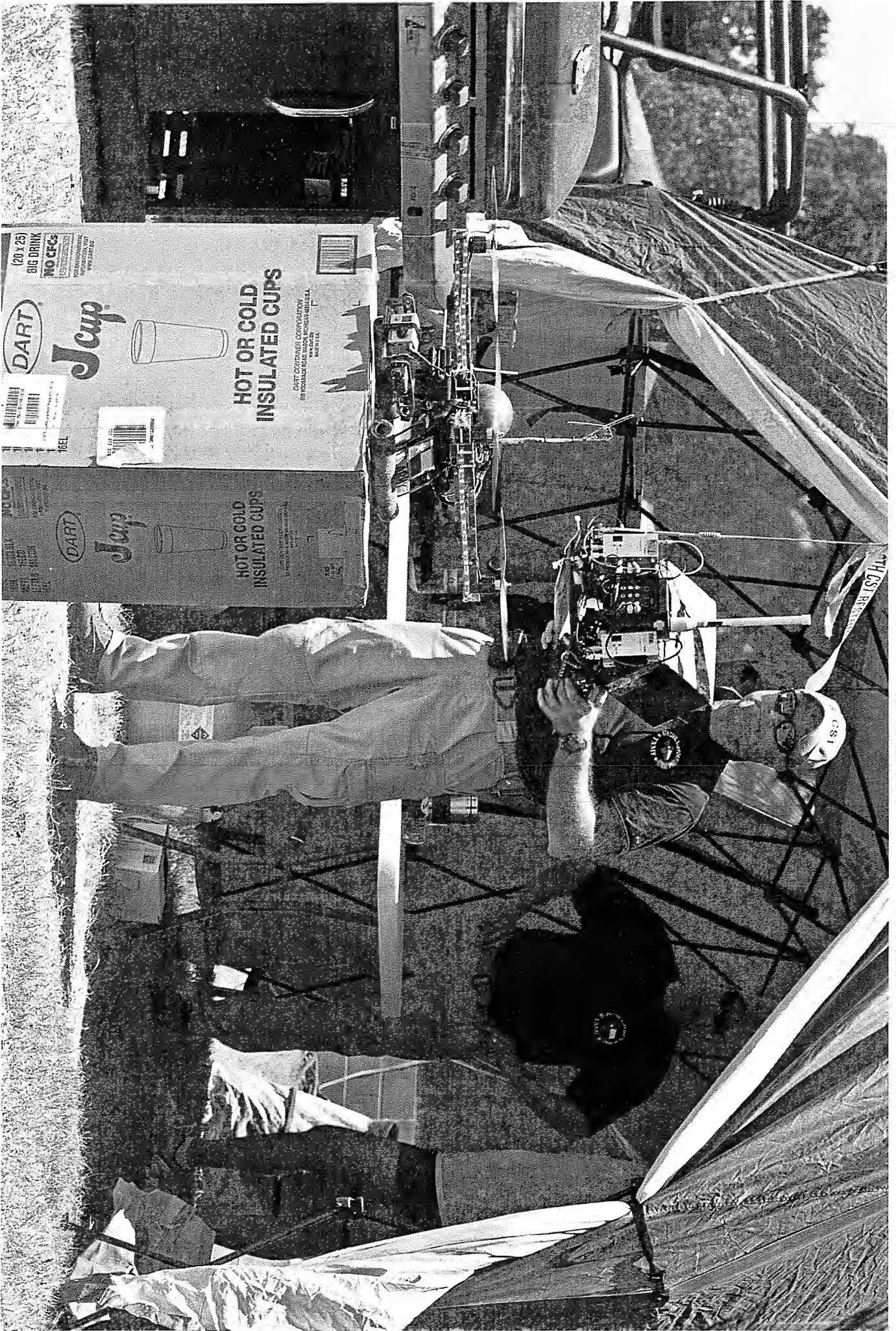
Samples of my Quadcopter capturing digital stills from the recorded HD video.

Bastrop Wildfire



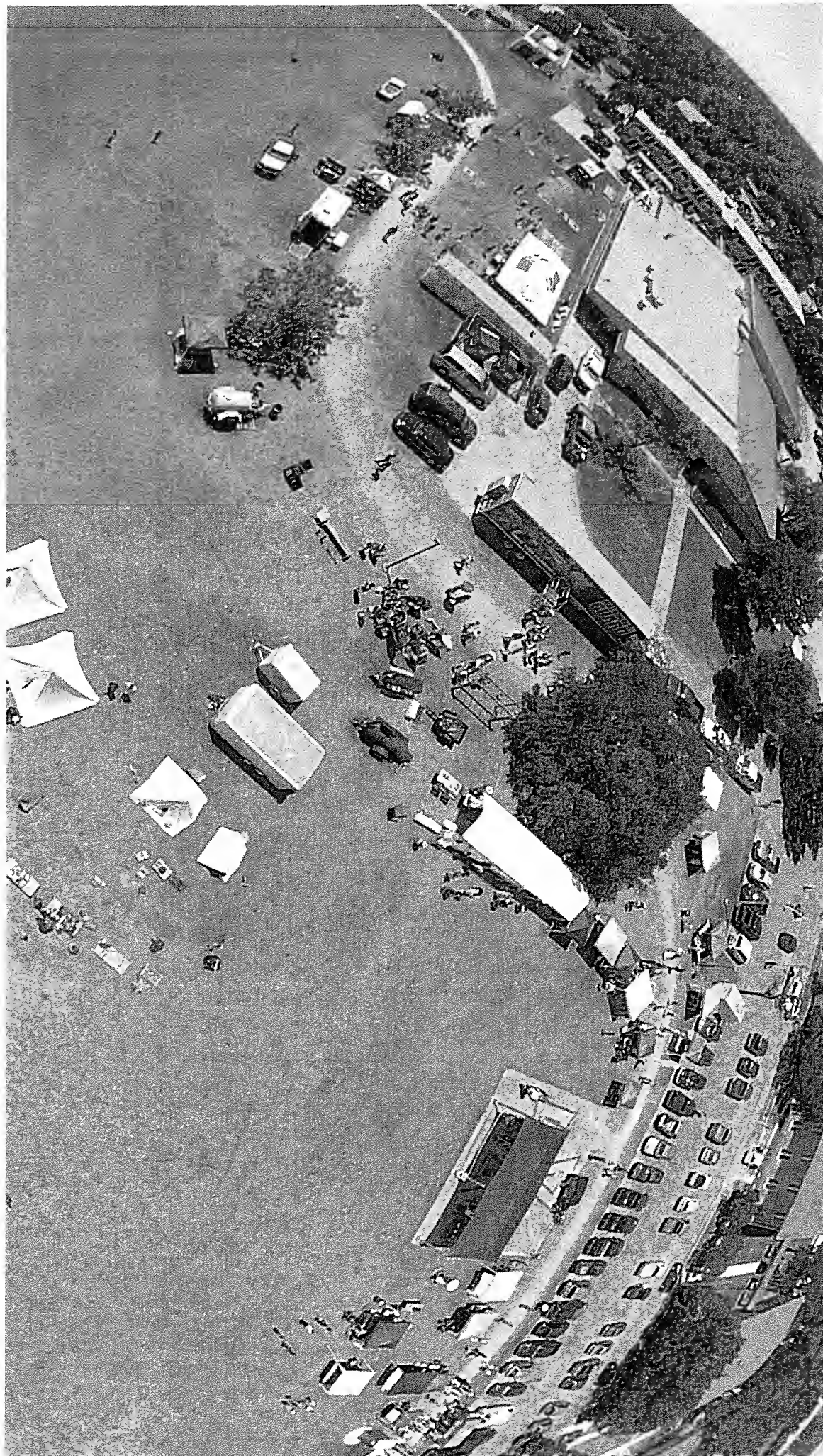


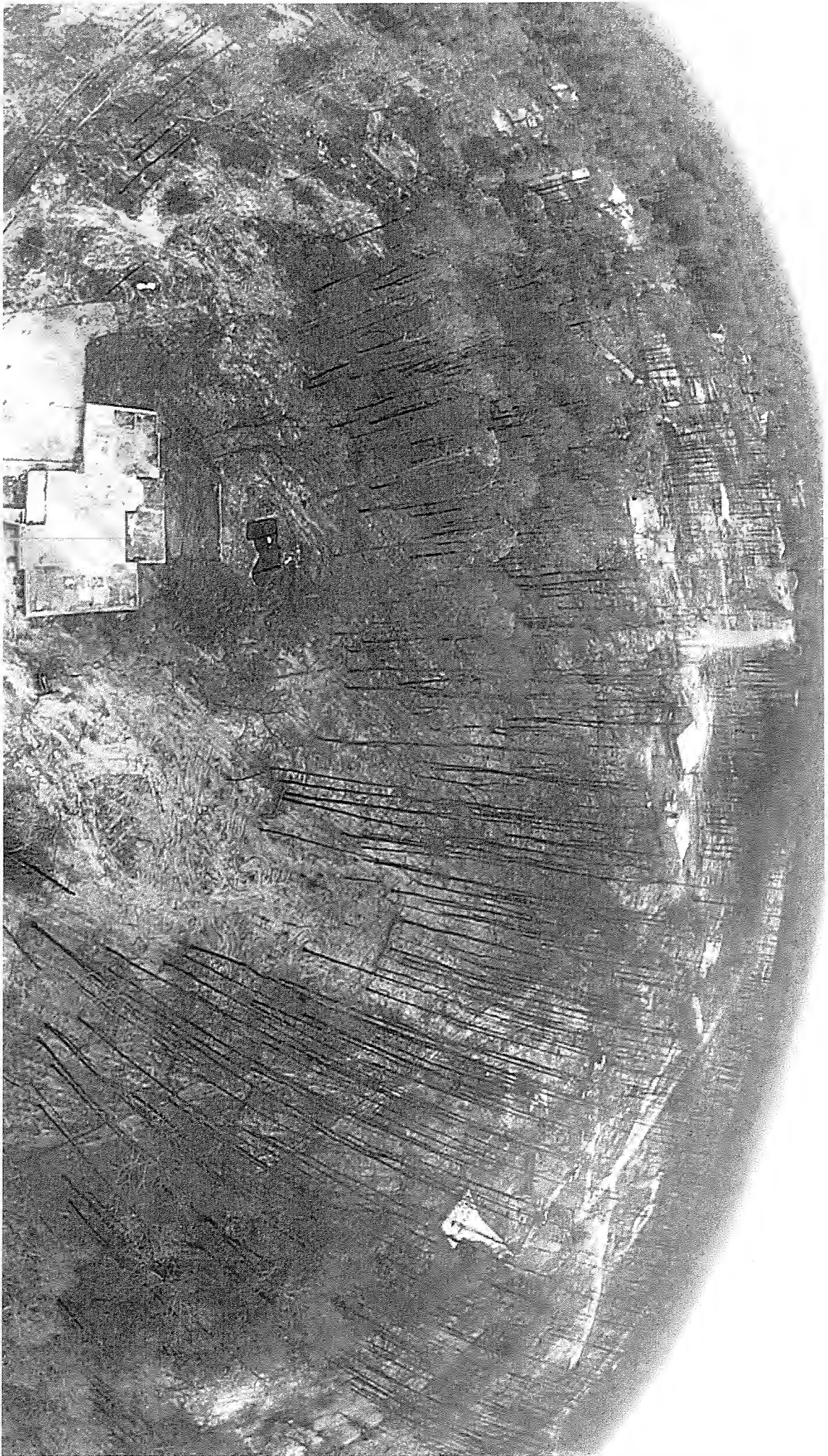












Smiley, Allen

From: Gonzales, Cynthia [FSD]
Sent: Monday, May 07, 2012 6:00 PM
To: Lord, Danielle
Subject: RE: Unmanned Aircraft System for APD

I have not had a chance to review but I will make time this week and get back to you by the end of the week.

Cynthia Gonzales
Corporate Contract Compliance Manager
Financial & Administrative Services Department Purchasing Office
(512) 974-1905

Manager: Denise Lucas, Deputy Purchasing Officer
(512) 974-1766

-----Original Message-----

From: Lord, Danielle [mailto:Danielle.Lord@austintexas.gov]
Sent: Friday, May 04, 2012 9:54 AM
To: Gonzales, Cynthia [FSD]
Cc: Athey, Colleen
Subject: FW: Unmanned Aircraft System for APD
Importance: High

Cynthia,
I was just following up to see if you had any additional questions that I need to send the vendor?

Thank you,

* Please note that my email address has changed to danielle.lord@austintexas.gov

Danielle Lord

M.B.A., B.B.A., C.P.M., A.P.P.

Procurement and Contract Services

& Alarm Administration

Financial Manager

Phone: 512-974-4543

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-----Original Message-----

From: Lord, Danielle
Sent: Monday, April 30, 2012 4:50 PM
To: Gonzales, Cynthia [FSD]
Cc: Athey, Colleen
Subject: FW: Unmanned Aircraft System for APD
Importance: High

Please see attached. Let me know if you need additional information or have any further questions.

Thank you,

* Please note that my email address has changed to danielle.lord@austintexas.gov

Danielle Lord

M.B.A., B.B.A., C.P.M., A.P.P.

Procurement and Contract Services

& Alarm Administration

Financial Manager

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-----Original Message-----

From: Torres Gabriel [mailto: |
Sent: Sunday, April 29, 2012 7:13 AM
To: Lord, Danielle
Cc: Cochran, Pat; Cortez, Eric; Ed Tovar; Ravestein Leslie; Julieann Dimmick
Subject: Re: Unmanned Aircraft System for APD

Danielle,

In response to APD's questions and comments regarding the Lease Agreement for Qube (as part of the NIJ-ATP / AV SUAS Evaluation Program), attached are four PDF documents for your review:

1) SUAS_Equipment_Lease_Agreement_Rev_14_APD_Comments_2012-04-27.pdf
Response to the questions and comments, with replies embedded within PDF file

2)
SUAS_Equipment_Lease_Agreement_Rev_14_APD_Comments_Expanded_2012-04-27.pdf
Same as above but with comments and replies grouped together and printed explicitly (easier to review)

3) SUAS_Equipment_Lease_Agreement_Rev_14_APD-02.pdf
Modified Lease Agreement with changes as described in the documents
above

4) SUAS_Equipment_Lease_Agreement_Rev_14_APD-02_Comparison.pdf
Comparison between the modified Lease Agreement and the original
Agreement

Copied in this email are Leslie Ravestein (Corporate Counsel) and
Julie Dimmick (Senior Counsel) for AV. Please copy them in future
correspondence on this matter.

Please let us know if you have additional comments or questions. If a
phone discussion between counsels is needed to address any specific
topic, please let us know.

Thank you and we look forward to working with you.

Gabriel

PS: Our apologies for the delay in providing a response to APD's
questions and comments. We appreciate your patience in this regard.

Gabriel Torres
Qube Program Manager
Unmanned Aircraft Systems
AeroVironment, Inc.
900 Enchanted Way, Simi Valley, CA 93065
Phone: (805) 581-2187 x1427
Email: torres@avinc.com
Web: www.avinc.com , www.avinc.com/qube

Smiley, Allen

From: Lord, Danielle
Sent: Tuesday, May 08, 2012 9:17 AM
To: Vance, Carol
Cc: Athey, Colleen; Cochran, Pat
Subject: RE: Unmanned Aircraft System for APD

Importance: High

Attachments: RE: Unmanned Aircraft System for APD



RE: Unmanned
Aircraft System f...

Carol,
Cynthia hasn't had a time to review but will be later this week. Please see attached email.

Thank you,

* Please note that my email address has changed to danielle.lord@austintexas.gov

Danielle Lord

M.B.A., B.B.A., C.P.M., A.P.P.

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-----Original Message-----

From: Vance, Carol [mailto:Carol.Vance@austintexas.gov]
Sent: Friday, May 04, 2012 10:11 AM
To: Lord, Danielle
Subject: RE: Unmanned Aircraft System for APD

Danielle,

We would still need to add the coverage to our policy if you want to have the insurance

policy as an avenue of recovery if there is a claim.

Another consideration for you is to possibly add the liability only if they will waive your liability for physical damage to the unit.

carol

-----Original Message-----

From: Lord, Danielle [mailto:Danielle.Lord@austintexas.gov]

Sent: Friday, May 04, 2012 9:50 AM

To: Vance, Carol

Subject: RE: Unmanned Aircraft System for APD

I sent the agreement revisions that the vendor sent to Cynthia Gonzales and Colleen Athey to review in purchasing. I am waiting to hear back from them as well as the end user about the costs. The last I heard the end user was willing to absorb the costs in his budget. I will let you know what I hear.

Thank you for the follow up.

* Please note that my email address has changed to danielle.lord@austintexas.gov

Danielle Lord

M.B.A., B.B.A., C.P.M., A.P.P.

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-----Original Message-----

From: Vance, Carol [mailto:Carol.Vance@austintexas.gov]

Sent: Friday, May 04, 2012 9:48 AM

To: Lord, Danielle

Subject: RE: Unmanned Aircraft System for APD

Danielle,

What did you decide on this lease?

carol

-----Original Message-----

From: Lord, Danielle [mailto:Danielle.Lord@austintexas.gov]

Sent: Monday, April 16, 2012 5:56 PM

To: Vance, Carol; Donn Gauger

Subject: RE: Unmanned Aircraft System for APD

So we are looking at \$5400 for a one year lease? If that is case we really need to consider the cost.

Sent from my Verizon Wireless smartphone

"Vance, Carol" <Carol.Vance@austintexas.gov> wrote:

Danielle,

Both of these coverages are required by this contract.

Donn,

Please tally this up and add any taxes or additional fees we would owe.

Thanks,

carol

From: Donn Gauger [mailto:
Sent: Wednesday, April 11, 2012 4:10 PM
To: Vance, Carol
Cc: Lord, Danielle
Subject: RE: Unmanned Aircraft System for APD
Importance: High

Carol / Danielle,

Underwriters have quoted annual premiums as follows to add coverage for the UAV to the current Aviation Insurance Policy.

Value \$120,000 - annual premium \$2,400 with a \$5,000 deductible each/every loss

CSL \$2,000,000 BI/PD only - annual premium \$1,000..

Please call in order to add/ bind coverage.

Thanks and regards,

Donn Gauger

Falcon Insurance Agency

800-370-0557

512-636-7443 cell

512-891-8483 fax

From: Vance, Carol [mailto:Carol.Vance@austintexas.gov]
Sent: Tuesday, April 10, 2012 4:59 PM
To: Donn Gauger
Cc: Lord, Danielle
Subject: FW: Unmanned Aircraft System for APD

Donn,

See below. Please forward the quote to Danielle and me. Danielle you can let Donn and I know if you want to bind coverage. It will be necessary to order this insurance to be in compliance with the contract. It is my recommendation that we add it to the insurance policy instead of trying to self insure it. As soon as you order the coverage from Donn he can send you a certificate of insurance for the vendor.

Please feel free to call me with any questions at 512-567-9079.

carol

From: Lord, Danielle [mailto:Danielle.Lord@austintexas.gov]
Sent: Tuesday, April 10, 2012 2:39 PM
To: Vance, Carol
Cc: Cochran, Pat
Subject: RE: Unmanned Aircraft System for APD

Correct, this one is more expensive.

It has many added features that others on the market do not have such as a GPS guided system, 40 minute flight endurance, touch screen navigation, high resolution thermal camera, hover and stare capability, and vertical take off and landing. This system is actually not on the market as of yet, we want to lease it and our feedback to the vendor will be utilized to modify and improve the system before they release it to the market.

So it does not surprise me that this system is more expensive.

Thank you,

* Please note that my email address has changed to <mailto:danielle.lord@austintexas.gov>
danielle.lord@austintexas.gov

Danielle Lord

M.B.A., B.B.A., C.P.M., A.P.P.

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From: Vance, Carol [mailto:Carol.Vance@austintexas.gov]
Sent: Tuesday, April 10, 2012 11:26 AM
To: Lord, Danielle
Subject: RE: Unmanned Aircraft System for APD
Importance: High

Danielle,

The insurance carrier is questioning the value of the unit. They said it is higher than others they have seen. Does this value including the cost of training? We need just the cost of the unit for insurance purposes, not contract amounts.

Thanks,

carol

From: Lord, Danielle [mailto:Danielle.Lord@austintexas.gov]
Sent: Wednesday, April 04, 2012 7:15 PM
To: Vance, Carol
Subject: RE: Unmanned Aircraft System for APD

The value of the system and spares defined in Appendix A of the Lease Agreement is approximately \$120,000.

Thank you,

* Please note that my email address has changed to <mailto:danielle.lord@austintexas.gov>
danielle.lord@austintexas.gov

Danielle Lord

M.B.A., B.B.A., C.P.M., A.P.P.

Procurement and Contract Services

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From: Vance, Carol [mailto:Carol.Vance@austintexas.gov]
Sent: Monday, April 02, 2012 2:33 PM
To: Lord, Danielle
Subject: RE: Unmanned Aircraft System for APD

Danielle,

Please provide the value of the unit. We have two options:

- 1) add unit to City's property insurance policy and provide letter of self-insurance

2) Or, add unit to city's helicopter policy

Please provide the value so we can get a quote for adding it to the Helicopter Policy.

My recommendation is we try #1 first and if AV turns us down we go with #2.

Thanks,

carol

From: Lord, Danielle [mailto:Danielle.Lord@austintexas.gov]
Sent: Friday, March 30, 2012 8:57 AM
To: Vance, Carol
Subject: FW: Unmanned Aircraft System for APD
Importance: High

Carl,

Can you please review the insurance requirements on this \$1 lease?

Thank you,

* Please note that my email address has changed to <mailto:danielle.lord@austintexas.gov>
danielle.lord@austintexas.gov

Danielle Lord

M.B.A., B.B.A., C.P.M., A.P.P.

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addressee(s)], copying or taking of any action because of this information is strictly prohibited.

From: Gonzales, Cynthia [FSD]
Sent: Thursday, March 29, 2012 6:58 PM
To: Athey, Colleen
Cc: Lord, Danielle
Subject: RE: Unmanned Aircraft System for APD

I have attached the agreement with my comments.

Cynthia Gonzales
Corporate Contract Compliance Manager
Financial & Administrative Services Department
Purchasing Office
(512) 974-1905

Manager: Denise Lucas, Deputy Purchasing Officer
(512) 974-1766

Smiley, Allen

From: Tableriou, Brett
Sent: Tuesday, May 22, 2012 2:47 PM
To: Cochran, Pat
Categories: UAV

Lt,

In response to your email on UAV's, I do have a pilots license. Let me know if I can assist you with your program.

SPO Brett Tableriou #4946
512-468-7648

6/13/2012

Smiley, Allen

From: Cortez, Eric
Sent: Tuesday, May 22, 2012 2:26 PM
To: 'Torres Gabriel'
Cc: 'Steven.ctr.Pansky@faa.gov'; 'david.morton@faa.gov'; Ogle, Scott; Cochran, Pat
Subject: RE: Update on FAA-DOJ Agreement for Small UAS and Contact Information for FAA Representatives - Austin PD

Gabriel,

We're glad to hear that progress is being made within the FAA. I read through the updates and am eager to get started on the COA process. Would this Friday, May 25th, around 2:00pm CST work for a conference call?

Respectfully,
Eric Cortez

-----Original Message-----

From: Torres Gabriel [mailto:]
Sent: Monday, May 21, 2012 12:16 PM
To: Cortez, Eric
Cc: Steven.ctr.Pansky@faa.gov; david.morton@faa.gov
Subject: Update on FAA-DOJ Agreement for Small UAS and Contact Information for FAA Representatives - Austin PD

Eric: Hope all is well on your end. I wanted to give you an update of happenings on the FAA side of things related to the small UAS Evaluation Program. Some very good progress has been made this past week. On Monday May 14 the FAA announced that it had reached an agreement with DOJ for use of small UAS for law enforcement agencies - this is the agreement that we had been talking about being in the works since I met with you in March. See the attached PDFs with the FAA announcement and also an article from Tim Adelman (from NIJ Aviation Technology Program) with more details about the agreement. The links for these documents are <http://www.faa.gov/news/updates/?newsId=68004> for the FAA announcement and <http://www.auvsi.org/news/> for Tim Adelman's article (again, PDFs of both articles attached).

In a related note, I wanted to put you in touch with Steve Pansky and Dave Morton from the FAA. They both work closely on COAs for Unmanned Aircraft Systems. I would recommend you start your communication with Steve Pansky as he's the lead for COAs for law enforcement nationwide and he can provide you information on the steps to move forward on the COA application for your agency. Steve and David's contact info is pasted at the bottom of this email and they're also copied in this email. I would recommend that you start a dialogue with them soon, in anticipation of finalizing the administrative side of the Lease Agreement between APD and AV. We should set up a time to talk on the phone to catch up on the status of this program, the logistics of the Lease Agreement, and address any issues. Please let me know what days and times work for you this week.

Steve and David: I'd like to make an introduction here to Senior Police Officer Eric Cortez from Austin PD. He's the main POC for APD for the Small UAS Evaluation Program and I'm sure he would appreciate any support you can provide him in terms of the process of setting up a COA. His contact information is pasted below.

Thank you all. AV will be providing a packet of information related to Qube that answers the product-specific questions for the COA

application. Please let us know how else AV can support this COA process as we move forward.

Sincerely,

Gabriel

Steve Pansky's Contact Information:

Steve Pansky
Senior Air Traffic Control Analyst
Law Enforcement/SAW-EC Liaison
B3 Solutions supporting
Federal Aviation Administration
Unmanned Aircraft Systems Group, UAS/AJV-13
775-815-3606

Dave Morton's Contact Information:

David B. Morton
Aviation Safety Inspector, AFS-407
Unmanned Aircraft Systems Safety,
470 L'Enfant Plaza, Suite 3200
Washington, DC 20024
Desk: (202) 385-4356
FAX: (202) 385-4559
E-Mail: david.morton@faa.gov

Eric Cortez's Contact Information:

SPO Eric Cortez #5904
Police Technology Unit
Austin Police Department
(512) 974-4783 work | (512) 745-4737 cell
(512) 802-6018 pager
Email: eric.cortez@austintexas.gov

Smiley, Allen

From: Miller, Peter
Sent: Tuesday, May 22, 2012 4:39 PM
To: Cochran, Pat
Subject: UAV program
Categories: UAV

Sir,

I am responding to the email sent out to obtain information on licensed pilots on patrol shifts.

I work with the F300 patrol shift (F307).

I am a licensed commerical pilot (flew for airlines prior to APD). I would be interested in the program if it were implicated.

Thanks,

Officer Miller, P. #7092
(785) 317-7006

6/13/2012

Smiley, Allen

From: Thomas Meyer
Sent: Wednesday, May 23, 2012 12:58 PM
To: Cortez, Eric
Subject: Meeting at TEEX Training Ground - Airrobot

Attachments: AirRobot Software Screen 1.jpg; AirRobot Software Screen 3.jpg; ARB_WP AR100 MIL comprehensive.pdf



AirRobot Software Screen 1.jpg... AirRobot Software Screen 3.jpg... ARB_WP AR100 MIL comprehensive..

Eric,

It was a pleasure meeting you at the event last week. Following a link as well as username and password for an online gallery with the video footage (including the flight you controlled) and the still images from the AirRobot system. Please download the material at your earliest convenience since the gallery will expire in 7 days.

<http://gallery.me.com/airrobot#100231>

User:
Password:

Also attached comprehensive White Paper about the system AR100B, which was the system used. This system is in service with various military, police and search and rescue forces since 2006. In addition you find some samples of our own mission planning software. As you can see this will enable you to pinpoint the location and heading of the flight platform on a geo referenced map, so that you able to associate the video feed with a specific location immediately.

Thank you again for your insights and feedback.

If you have any additional questions please contact me.

Sincerely

Thomas

AirRobot US, Inc.
1001 19th Street North #1200?
?Arlington, VA 22209?

Tel 347 332 6974
Fax 347 521 1502
www.airrobot-us.com

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AirRobot data

Video size: 100%

Satellites: 9

Lat.: 51.5862197°

Lon.: 7.9175953°

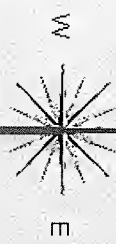
GPS height: 0

rel. height: 0

Speed: 0m/s

UTM: 3274

Flightpath: 0°



Returnpath: 180°

Homecoming point:

Distance: 0,00m

Flighttime: 011

RC GPS OPS home WP

AR Battery: 31,10V 74%

Error/Msg: \$0000/\$21

WP/ACI: 655350

Mission...

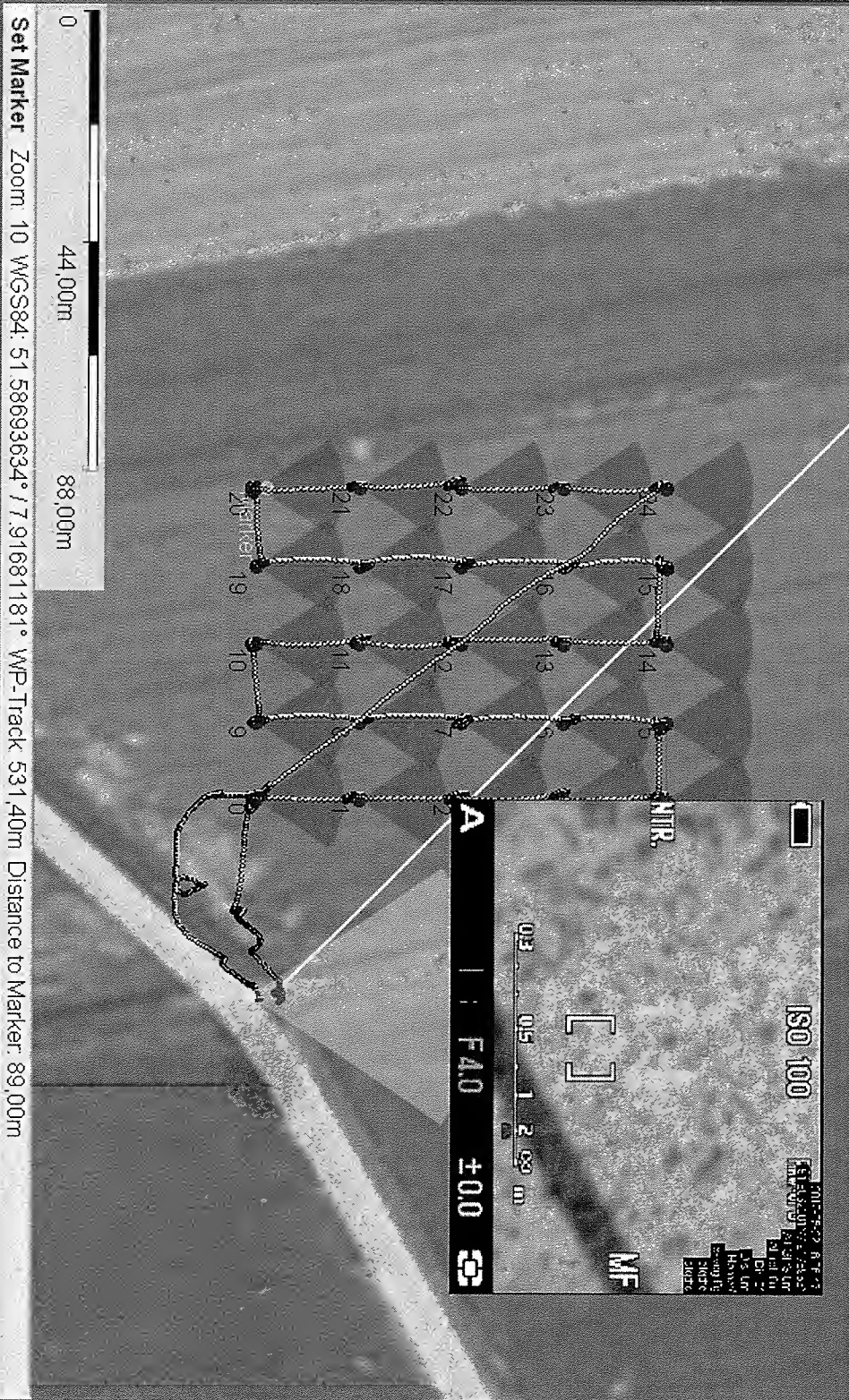
AR-Bat: [Battery Level]

PC Bat: [Battery Level]

sound OFF BKS connected AR365

Map

File Edit Transmission Lists 3D Viewer Track Units Coloring Transforming-Tool Help



AirRobot data

Video size: 100%

Satellites: 11

Lat.: 51.586366°

Lon.: 7.9168287°

GPS height: 0

rel. height: 10.9

Speed: 0m/s

UTM: 42949620.87

11.58

Flightpath: 358°

Returnpath: 178°

Homecoming point:

Distance: 53.00m

Flighttime: 004

RC GPS OPS home WP

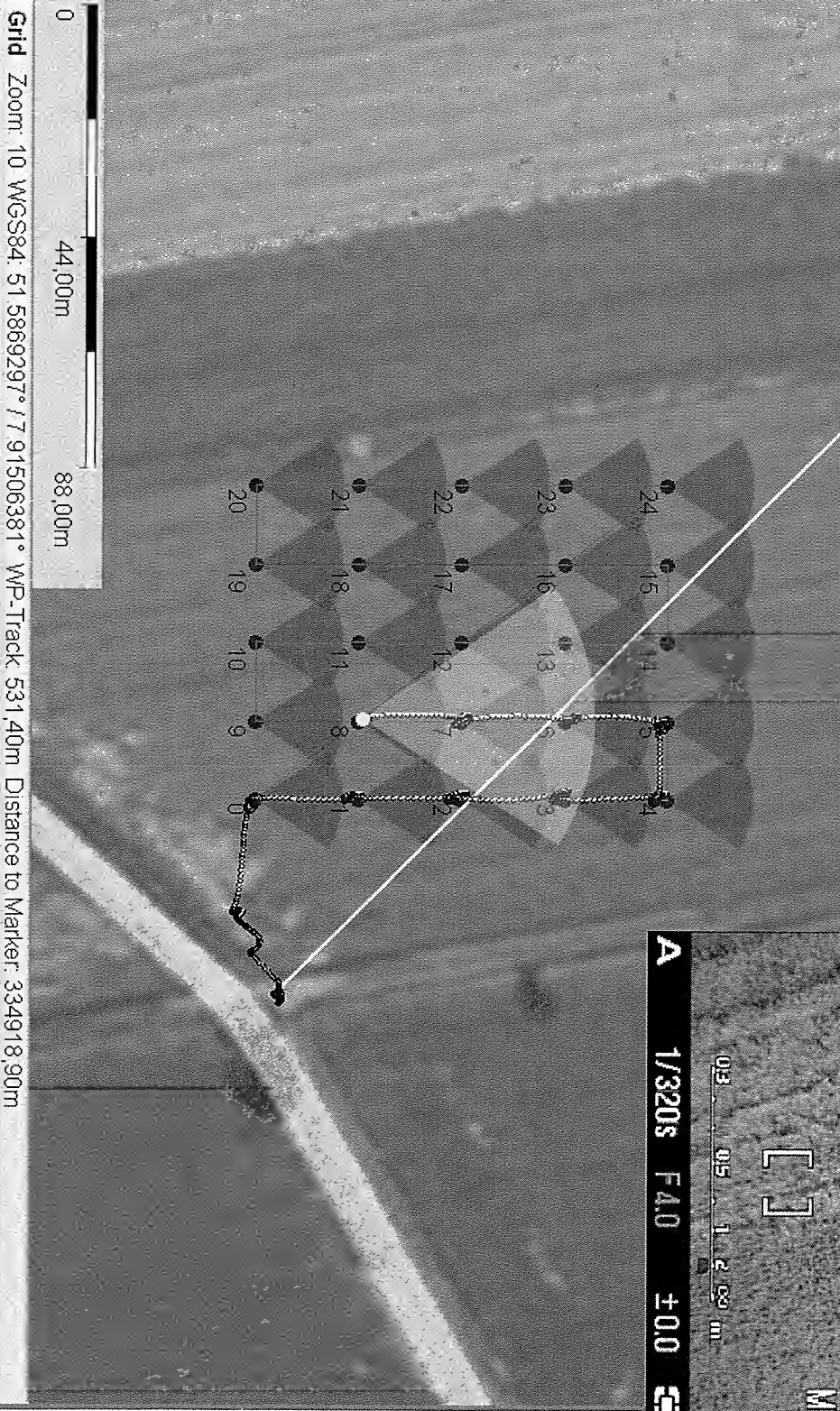
AR Battery: 32.10V 83%

Error/Msg: \$0000/\$21

WP/Alt: 65535/8

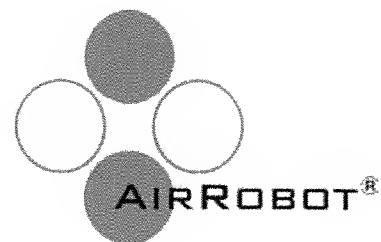
Map

File Edit Transmission Lists 3D Viewer Track Units Coloring Transforming



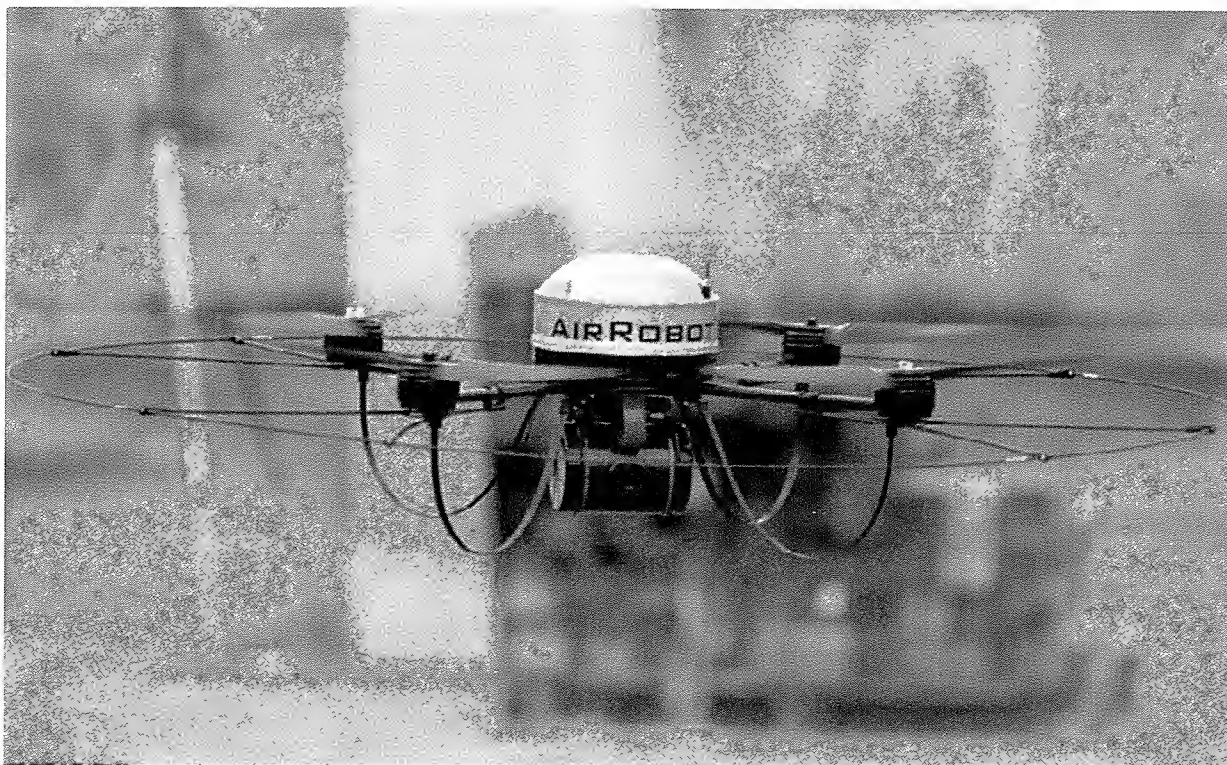
AR-Bat: PC Bat: sound OFF BKS connected AR365

System Description



Airrobot

Micro Unmanned Aerial System



March 2011

Airrobot AR100 UAS. Syst Description - Status Friday, October 21, 2011
Prepared by Thomas Meyer, Airrobot US, Inc. 103 Rowell Court, Falls Church, VA 22046
Tel: 347 332 6974 Fax: 347 521 1502 Email: tmeyer@airrobot-us.com

Description of Technology

The Airrobot is a VTOL Micro Unmanned Aerial System (weight < 2lbs) with virtually silent electrical propulsion for close range, stealth Intelligence, Surveillance and Reconnaissance operations out of line of sight during day and night operations and additional use as a tactical-unattended ground sensor.

Key Features

- Vertical take off and landing
- Electrical propulsion for virtually silent operation
- Hover and stare with hands off functionality
- Perch and stare capabilities with out of line of sight remote landing and take off
- Assisted tele op and waypoint programmed flight
- Precise maneuvering for operation in extreme proximity to the area of interest (< 1 ft to target)
- Stable close to ground operation at altitudes < 2 ft
- Out of line of sight flight through video (video game like control for easy learning)
- Modular Payloads to meet different mission needs (day/night/IR/radiation sensors/high res)
- Max. payload 0.5 lbs
- Endurance < 30 min
- Range < 2.5 km (1500 ft complex terrain) limited through transmitter range
- One man dismounted operation or vehicle based
- Deployment time < 3 min
- Gross weight 2 lbs (Unit) apprx. 25 lbs packed including spares and GCS
- Man portable and backpack able

Mode of Operation

The Airrobot can be operated in assisted tele operation mode, using the video feed and telemetry data for direction and orientation. Looking at the video like through a windshield, the operator virtually “sits” in the unit. Controls are similar to a game controller and easy to learn, Remote take off out of line of site is possible (e.g. from a rooftop).

Waypoint guided pre programmed flight is optional. The unit will autonomously follow a pre set waypoint path around a specific perimeter. No Go areas, geofences and vantage points can be pre programmed. The operator has the ability to interfere at any time and switch to tele operation mode to focus on a detected, moving target.

Deployment

System is backpack able. Complete packed weight is between 28 and 36 lbs depending on number of batteries carried. Time to deployment associated with assembly and preparation is < 5 min.

Examples



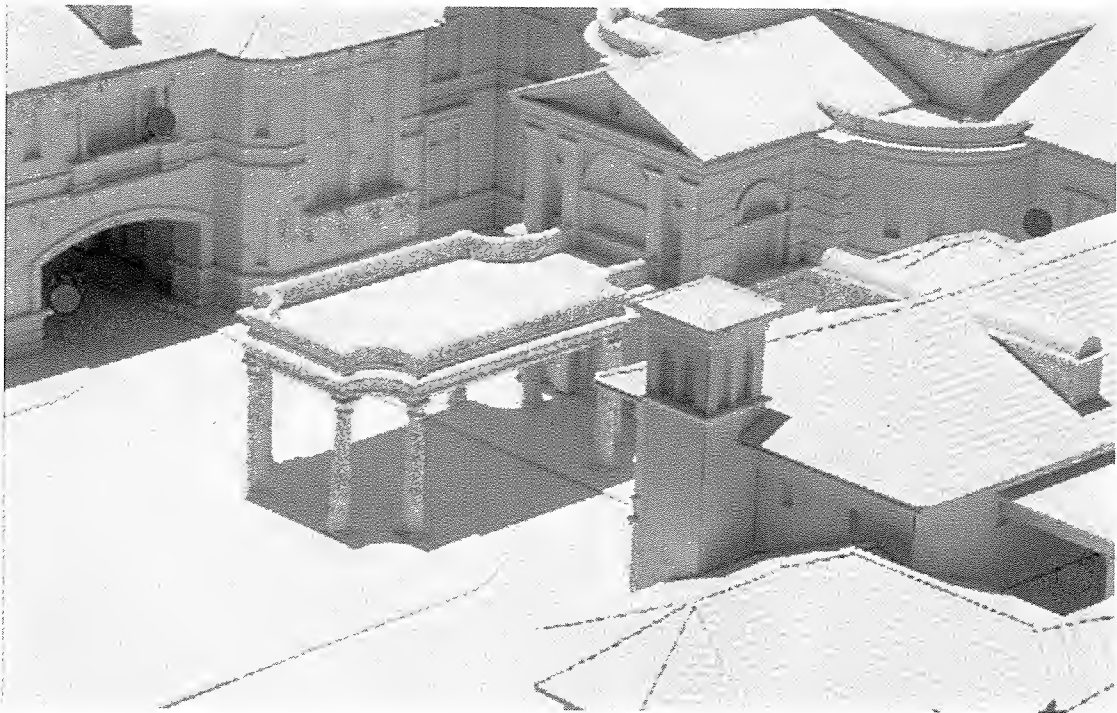
Detection of two persons at night (total darkness) in urban area using IR thermal imaging sensor



Close inspection of entrance in between buildings at night in low altitude (6 ft AGL)



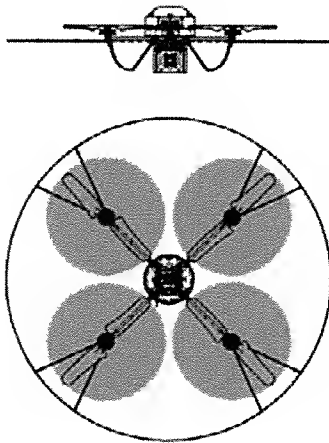
Cover during operations with rooftop clearance



Neuralgic points of interest (red) not accessible with helicopters, fixed wing UAS or ground robots

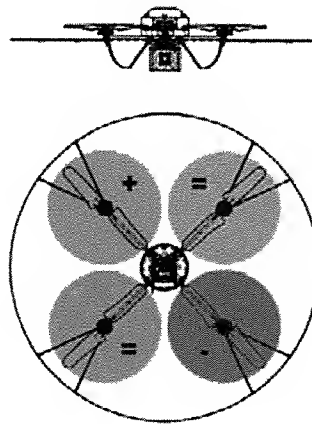
Airframe and Propulsion

Quad Rotor with independent rotation speeds resulting in “active maneuverability”. Counteraction to external forces is performed by adding power, shortening the response time. (in comparison to ducted fan with subtractive method)



- Rotor speeds and torque hovering without external influence. (ideal case)

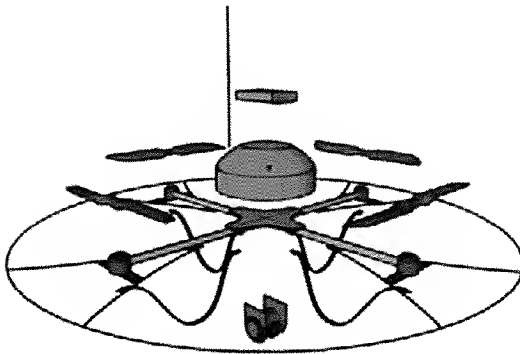
All rotors rotate at same speed



- Rotor speeds and torque when sudden external force is applied to one side of the unit

Rotors actively balance unit by generating additional thrust in the correct area, reducing thrust where necessary

Mechanical structure



- Modular system – parts can be removed without tools
- Primary material carbon fiber results in low radar profile
- Small de-centered engines result in small thermal footprint

Technical Data Overview.

Electrical Propulsion System

- Lithium polymer batteries 14.8 V 3.7 Ah interchangeable
- Recharging time 2 h min for full cap.
- 4 Brushless and gearless electrical motors
- Maintenance free
- Max. 2300 rpm

Performance

- Endurance < 30 min
- Max. Airspeed 25 mph
- Operating Altitude 1 to 450 ft AGL
- Max climb speed 2 m/s (electronically limited)

Environmental limitations

- Wind Speed max. 18 - 20 mph (regular operator)
- Temperature 30oF –115oF, 100% humidity
- Ice rain
- Presence of strong magnetic fields

General Technical Data

- Gross weight 2 lbs
- Max payload 0.5 lbs
- Diameter 40 inches

Communication

- Hardware configurable video/ data transmission downlink 1.2 – 5.8 Ghz 20 Mhz BW, Digital COFDM
HW tune able 300-500, 500-800, 1100-1500, 2000-2300, 2300-2700, 3100-3400, 3300-3700, 4500-4900, 5600-5900 (all values in MHZ)
Optional analog 2.4 Ghz
- Data downlink transmission rate 38,400 bps
- Encryption possible with digital transmitter
- Configurable command control digital uplink 200.000 to 928.000 MHZ 7 khz BW
HW tune able 225-228, 433-436, 444-447, 455-458, 463-466, 868-871, 902-928 (all values in MHZ)
- Link Range < 2.5km LoS (vehicle mounted high gain antenna)
1 km LoS (GCS in backpack)

Open system architecture allows for short term DDL implementation!

Command Center-Network Integration

Video-Data Interface

Video out

- Composite Video Analog
- Mpeg2 video stream USB
- IP adressable video multicast server

Simultaneously accessible

Telemetry data out

- USB interface (proprietary protocols for filtering available)

CC uplink in (third party controller)

USB (proprietary protocols for filtering available) Architecture allows for short term adoption to common controller.

Stabilization/Positioning Sensors

Autonomous attitude control

1. Rotational Speeds

- 3 Axis: Roll, Pitch, Yaw
- Update rate: 10 Hz

2. Accelerations

- 3 Axis: Drone Body Frame, X, Y, Z
- Resolution: 0.15 m/s²
- Update rate: 10 Hz

3. Estimated Roll, Pitch angles

- 2 Axis: Roll, Pitch
- Update rate: 10 Hz

Autonomous altitude control

1. Baro-Altimeter

- Relative Altitude: m
- Resolution: 0.05 m
- Update rate: 10 Hz

Autonomous direction control/heading

1. Magnetometer

- Tilt Compensated Heading
- Resolution: 0.5 °
- Accuracy: +/- 5 ° over full Tilt (+/- 25 ° Roll or Pitch)
- Update rate: 10 Hz

Auto positioning

1. GPS (normal GPS, NO DGPS)

- Latitude, longitude (MGRS Pos)
- Horizontal and vertical speed
- Course
- Update rate: 4 Hz

2. Proprietary optical based low altitude/alternative positioning system

Available Payloads

- **Daylight color video cameras**
 - Resolution 480 x 640 px,, field of view ~ 20° to 70°, Frame Rate: 25 fps PAL, 30 fps NTSC, Cameras can be combined for “rapid zoom”
- **Dawn/ low light**
 - Black and white imaging, Resolution 570 lines, field of view ~ 20° x 70°, Frame Rate 25 fps, Sensitivity 0.0003 lux,
 -
- **10 MP still camera with live video feed**
 - Color still images with 10 MP image size, Parallel real time video feed, Remote controlled 3x optical Zoom
- **IR thermal image camera**
 - 384 x 288 pixel array 35 μ micro-bolometer, field of view ~ 48° x 37°, Thermal sensitivity < 50 mK, Refresh rate real-time 50/60 Hz, Automatic electronic iris, temperature stabilized.
- **HD IR thermal image camera**
 - 640 x 480 pixel array 35 μ micro-bolometer, field of view ~ 48° x 37°, Thermal sensitivity < 50 mK, Refresh rate real-time 50/60 Hz, Automatic electronic iris, temperature stabilized

Payloads in preparation

- HD video camera
- Radiation Sensor
- Gas sensors
- Listening devices
- Sniffer (sensaic)

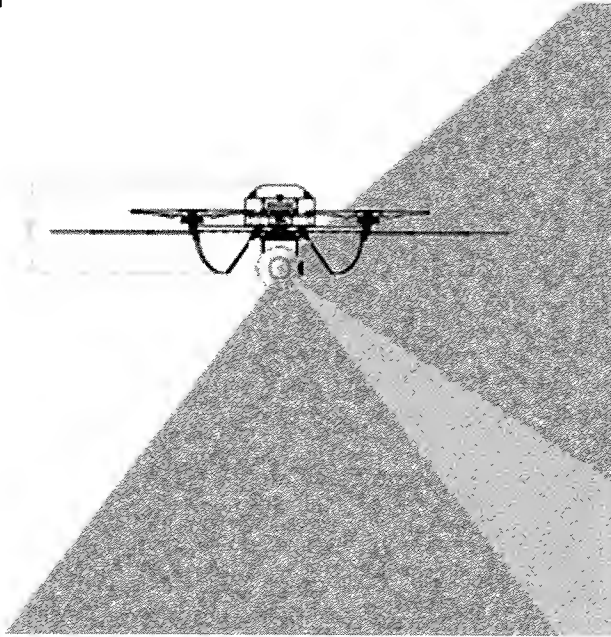
Payload suspension and control

- Tilt mechanism allows for 110 degree up and down with

max 20 degrees upward

max 90 degrees downward

▣



- Camera pan 360 degrees through rotation of the unit

Max angle of view with 70-degree field of view camera is 170 degrees up and down and 360 degrees around controlled from remote control.

- Modular payload carrier allows for swap of payloads within less then 30 seconds

Safety Features

Lost CC uplink

Programmable sequence

Under GPS – Wait 20 sec, Climb to highest altitude reached on way to current position, Turn towards Home, Fly Home.

Without GPS availability - initiate auto landing.

Battery Failure

In case of battery failure, unit will initiate a slow (0.5 m/s) auto landing. Unit always preserves enough battery power to ensure safe landing with all sensors and stabilization systems working

Processing and Stabilization

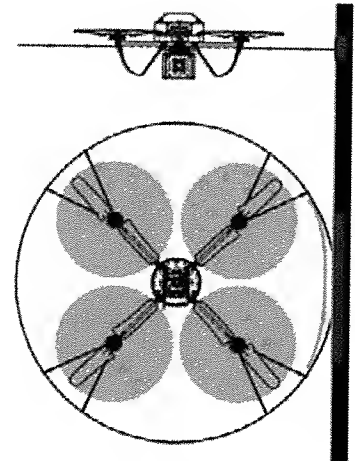
All processing for auto positioning and auto stabilization is built into the unit. The unit does not need radio communication to maintain this functionality. No processing is performed on the ground station. Waypoints are pre fed onto onboard memory.

Operator Error

Unit has envelope protection and does not allow maneuvers, which could lead to crash like over steering or exceeding maximum angle of 25 degrees

Safety ring

Flexible protection ring allows for operation extremely close to subjects of interest without risk of damage to the rotors



Handling

Small rotors with low torque and momentum provide safe handling and minimize risk of injury

GCS and display

MGRS or GPS position



GPS cage B = on - = off Heading by way of compass

GPS G = on - = off

Home on lost link active H = on

Remote Uplink Status R = Available, - = OUT OF RANGE

GPS Status G = Available, - = denied

Optical Positioning Status O = Available, - = OUT OF RANGE

Move Payload DOWN

Move Payload UP

Auto Home Activation

Payload control (see below)

Home Reset



Pay-
Load
Control
Field

Auto
Nav.
Control
Field

GPS on / off ▪

Optical ▪
positioning
on / off

Radio Control Activation ▪

Fiber Optic Ch 1 Activation ▪

Fiber Optic Ch 2 Activation ▪

Payload control

- With IR sensor toggles between daylight video and IR
- With 10 MP still camera triggers still image

▪ Buttons crossed out with X are not active at this time.

▪ GPS Cage on / off

Return home on lost
▪ link on / off

▪ Video Record START

▪ Video Record STOP

▪ Engines OFF switch

▪ OCU on/off switch

Maintenance / Field Repair

The Flying Platform is maintenance free and does not require scheduled or regular maintenance. Engines are brushless and gearless. Besides the engines there are no moving parts like servos. Expected life time is 10,000 flight hours till possible engine bearing failure.

Batteries maintain their charge and do not self-discharge. Self-discharge is < 3% per year. Average life cycle is 150 charges.

Most wear and tear parts (protection ring, landing gear, rotors), which may break, are replaceable in the field without tools.

Sensor Payloads are user replaceable within less then 30 seconds and can be swapped in the field in case of damage or malfunction.

Training

Operators can be trained to operate the unit within 1 to 3 days of practical training, depending on their previous experience with model airplane flying and/or video gaming. Video gaming experience will shorten learning time due to the similarities in controls and visual interface. The unit can be operated through the video feed much like a video game (no reversal of perspectives as when flying in line of sight). Risks during training are low because of safety features which include “envelope protection” meaning, that the system refuses to execute commands leading to crash except collision, low mass of the aircraft combined with a frangible airframe and protected blades.



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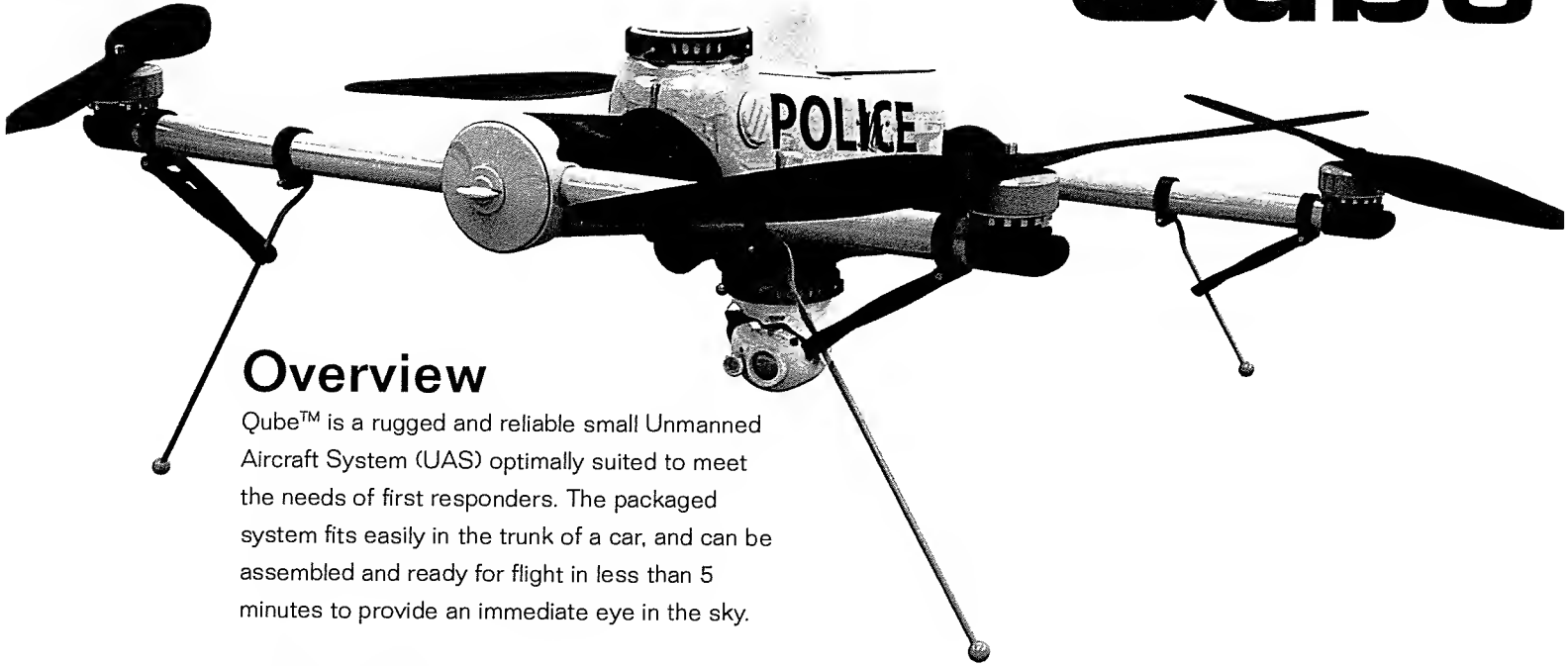
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Overview

Qube™ is a rugged and reliable small Unmanned Aircraft System (UAS) optimally suited to meet the needs of first responders. The packaged system fits easily in the trunk of a car, and can be assembled and ready for flight in less than 5 minutes to provide an immediate eye in the sky.

This Vertical Take-off and Landing (VTOL) aircraft has an unmatched 40-minute flight endurance. It is able to hover quietly, autonomously holding position and altitude.

Qube's Ground Control Station (GCS) features an easy to use interface on a rugged tablet computer. Simply clicking on the touchscreen map tells the aircraft where to go – Qube does the rest. High quality, live video is displayed on the screen, providing critical information to users immediately.

The modular payload includes both a high-resolution color camera and a 640 x 480 thermal camera, allowing the operator to see in any lighting conditions without changing payloads. Both cameras have zoom capability and image stabilization.



Features

- Compact and rugged system
- Vertical Take-off and Landing
- Easy to use, intuitive controller
- Quiet, hover-and-stare capability
- Stabilized color and thermal camera
- 40-minute flight endurance (with payload)

Specifications

Payload	Dual high resolution color & thermal cameras
Range	1 km line-of-sight
Endurance	40 minutes (with payload)
Operating Altitude (Typ.)	100 – 500 ft. AGL
Length	3 ft. (90 cm)
Weight	5.5 lbs (2.5 kg)
GCS	Rugged touchscreen tablet with digital data link module



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This Equipment Lease Agreement ("Agreement") is executed this [INSERT DATE] day of [INSERT MONTH], [INSERT YEAR] between AeroVironment Inc., located at 181 W. Huntington Drive – Suite 202, Monrovia, California 91016 (hereafter referred to as "AV") and Austin Police Department located at 715 East 8th Street Austin, TX 78701 (hereafter referred to as the "Lessee").

WHEREAS AV is an industry leading supplier of Small Unmanned Aircraft Systems ("SUAS") whose applications include tactical situational awareness, incident documentation, and search and rescue; and

WHEREAS Lessee, in its capacity as a public safety agency, must respond to situations in a law enforcement environment that could potentially be more effectively managed by the implementation of SUAS technology; and

WHEREAS Lessee is a participant in the U.S. National Institute of Justice's Aviation Technology Program ("NIJ-ATP") and will evaluate operational utility of SUAS technology as applied to law enforcement missions; and

WHEREAS, AV desires to provide a low-cost evaluation mechanism by which Lessee may utilize SUAS in its law enforcement applications to determine their effectiveness in exchange for a minimal fee and operational data and feedback as to the performance of the SUAS in such applications;

In consideration of the mutual covenants the parties hereby agree as follows:

1. Lease of Equipment

Subject to the terms and conditions of this Agreement, AV agrees to lease to Lessee and Lessee agrees to lease from AV the equipment (the "*Equipment*"), described on the Equipment Schedule attached as Exhibit A (the "*Equipment Schedule*").

2. Term & Delivery

The term of this Agreement shall be the term identified on the Equipment Schedule, and shall begin on the date of execution of this Agreement by Lessee (the "*Term*").

The "*Lease Period*" for the Equipment shall begin on the Delivery Date, which shall be that date on which all of the Equipment is transferred to the control of the Lessee, and shall continue for the number of months specified in the Equipment Schedule. AV will arrange for delivery of the Equipment to the Location specified on the Equipment Schedule, at AV's expense, after both:

- a. Lessee's Certificate of Authorization for SUAS flight operations in the U.S. National Airspace System ("COA") is approved by the Federal Aviation Administration (FAA) and a copy is delivered to AV; and
- b. Online Training (as defined in Section 4 below) has been completed and Flight Training has been scheduled by Lessee.

AV will have no liability for any delay or failure to deliver the Equipment.

3. Payment

- a. Payment. Lessee's obligation for payment shall commence on the Delivery Date and continue for the Lease Period. The total lease payment shall be \$1.00 for the entire Lease Period.
- b. Lessee's Entitlement to Tax Benefits. Lessee acknowledges that AV is the only party entitled to claim tax benefits provided by federal, state and local income tax laws to the owner of the Equipment ("Tax Benefits"). If requested by AV, Lessee shall furnish AV with records and other information necessary to claim such tax benefits.

4. AV Support

- a. Training. AV shall provide Lessee with training for up to four (4) UAV operators, on a schedule mutually agreed upon by the parties (the "*Training*"). This Training will consist of a combination of an online/non-classroom training course (the "*Online Training*") and one (1) in-person flight class ("*Flight Training*") for all Approved UAV Operators (as defined below) at Lessee's desired location in the United States covered by a valid COA. AV will coordinate with Lessee to schedule Flight Training to coincide with the expected beginning of the Lease Period and maximize the time that Equipment is available for use by Lessee. Note: The AV-provided training for operation of the Qube system is included in the cost of the lease. However, the COA obtained by Lessee from the FAA may require the UAV Operators to have successfully completed Private Pilot Ground School as well as having obtained a Class II medical certificate, as well as other requirements as established by the FAA. It is Lessee's responsibility to identify the necessary training



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requirements to satisfy COA specifications. The costs associated with these requirements are not included in the cost of the lease and are the sole responsibility of the Lessee. .

- b. Operational Support. During the Lease Period, AV shall provide, at no additional cost to Lessee, commercially reasonable access to engineering and operational support by telephone or e-mail during normal business hours as it relates to operation of the system.

5. Equipment Use, Reports & Maintenance

a. Approved UAV Operators and Observers.

- i. Approved UAV Operators. Lessee agrees to designate a minimum of two (2) but no more than four (4) active duty sworn law enforcement officers in good standing to receive Training. Officers must be employees of the Lessee. Officers who satisfactorily complete the Training shall be designated by AV as "Approved UAV Operators." Training for additional officers may be available upon request at rates established by AV. Lessee agrees that only Approved UAV Operators will be permitted to operate the Equipment. Approved UAV Operators may also be required to pass the Aviation Medical exam and Aviation Knowledge exam required by the Lessee's COA. Fees for the Medical exams and Aviation Knowledge exams shall be the responsibility of the Lessee. Each Approved UAV Operator shall maintain flight currency by logging at least 2 flight-hours per month (averaged over 3 months) in order to operate the Equipment. The Lessee's COA may impose additional operator currency requirements that the Lessee shall abide by.
- ii. Observers. Lessee shall also designate a minimum of two (2) individuals who will serve as Observers as required by the Lessee's COA. Observers may also be required to pass the Aviation Medical Exams under the Lessee's COA and to satisfy other requirements as required by the FAA. Lessee is solely responsible for any fees for the Medical Exams or other requirements. AV will provide the training for the Observers as part of this lease agreement.

b. Frequency of Usage & Reporting

- i. Flight Hours. Throughout the Lease Period, Lessee agrees to operate the Equipment a minimum of 4 flight hours per month (averaged over 3 months). This requirement shall go into effect during the third full calendar month of the Lease Period.
- ii. Damage Notification. Lessee agrees to inform AV within 5 business days of damage to or loss of the Equipment or any part thereof.
- iii. Logbook. Lessee agrees to maintain an official Logbook of all flights and missions, containing the information specified in Exhibit B, including the identity of any third party law enforcement organizations or public safety agencies that observe operation of the Equipment, and to provide a copy of such logbook to AV within seven (7) business days of the end of each calendar month by sending such reports to the AV Representative or uploading such information to an AV-provided secure server.
- iv. Electronic Backups. Lessee agrees to record and maintain electronic backup files of all Ground Control Station data/video/images on an AV-provided external hard drive for the duration of the Lease Period and to make the files available to AV upon request.
- v. Feedback. Lessee agrees to provide feedback and comments to AV regarding the Equipment, its performance, including product improvements/enhancements, capabilities, and shortcomings and to provide the AV Representative with reasonable access to trained operators of Lessee for purposes of the exchange of information described above.
- vi. Roundtable Discussions. Lessee agrees to participate in roundtable discussions to be coordinated by AV by providing a minimum of one (1) representative from the Lessee's agency for attendance to at least one, one-day event likely to be held near Washington, D.C. Lessee shall be responsible for all costs associated with the attendance of Lessee's representative(s) at this event.

Notwithstanding anything to the contrary above, Lessee shall not be required to provide AV with any videos and/or images or mission-specific information protected by applicable privacy law, evidentiary procedures, or other U.S. Laws or regulations.



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- c. Part Supply. AV, at its expense, shall repair and replace all Equipment, or parts thereof, damaged in the ordinary course of usage in accordance the Operator's Manual and the Training. All such replacement Equipment or parts ("Replacement Parts") shall immediately become part of the Equipment for all purposes hereunder. All damaged Equipment or parts thereof shall be returned to AV for repair or replacement, at Lessee's expense, FOB Destination, via bonded courier. Lessee shall bear the risk of loss of any Equipment damaged or destroyed due to unauthorized operation of the Equipment, as provided in Section 9.e.
- d. Use, Operation and Maintenance.
 - i. Regulatory Compliance. Lessee shall use the Equipment in compliance with all laws, rules and regulations of every governmental authority having jurisdiction over the Equipment and its operation and maintenance, including the terms of any applicable COA and applicable FAA regulations.
 - ii. Operator's Manual. Lessee shall use the Equipment in compliance with the Operators Manual and all Training provided by AV.
 - iii. Permits & Licenses. Lessee shall obtain all permits, licenses or other authorization necessary for the operation and use of the Equipment. Except as explicitly stated otherwise herein, Lessee shall pay all costs, expenses, fees and charges incurred in connection with the use and operation of the Equipment.
- e. Location of Equipment. Lessee shall not store any part of the Equipment at any other place other than the location set forth on the Equipment Schedule without the prior written consent of AV.
- f. Security and Export Control. The Equipment, including any replacement parts, must either remain in the custody of the Lessee, at all times, or be placed in locked storage to prevent theft or unauthorized access.

Lessee acknowledges that the Equipment falls under the jurisdiction of export control laws and regulations of the United States Department of Commerce, the United States Department of State and other United States government agencies relating to the export of commercial or military technology. Lessee agrees to abide by these export control regulations and agrees not to export any "Technical Data" without the express written consent of AV or without the required U.S. Government export licenses.

For the purpose of this section, "Technical Data" is defined in the export regulations (22 U.S. Code of Federal Regulations Chapter 1 Section 120.10) as "Information...which is required for the design, development, production, manufacture, assembly, operation, repair, testing, maintenance or modification of defense articles." Lessee acknowledges that the commitment not to export includes "deemed export" (disclosure to Foreign persons in the United States or elsewhere). Deemed export includes export of technical data to Foreign Persons who may be present in the facilities of, or in contact with Lessee outside of its business facility. A "Foreign Person" is any person who is not a citizen of the United States, a Lawful Permanent Resident (Green Card Holder) or a member of a protected class. Foreign Persons cannot receive controlled data unless an export license is issued to cover such a transfer. Any business entity that is not incorporated or organized to do business in the United States is also a Foreign Person.

The Lessee shall take all reasonable measures to protect the technical data from disclosure to any Foreign Persons unless specifically authorized by a U.S. export license and AV.

Failure to obtain an export control license or other authority from the U.S. Government when such is required may result in criminal liability under U.S. laws. Express written consent from AV, although required under this agreement, does not constitute a governmental authorization or an export license.

- g. Return of Equipment. At the end of the Lease Period or termination of the Agreement, Lessee shall return the Equipment and any replacement parts to AV at the location within the Continental United States designated by AV at Lessee's expense. The Equipment shall be shipped by bonded courier in the same crating in which it was received, if possible, or in crating and/or packing materials approved by AV. Lessee shall also deliver to AV the plans, specifications, operating manuals, and other documents furnished by AV and such other documents in Lessee's possession relating to the maintenance and method of operation of the Equipment. At AV's written request, Lessee shall provide free storage for any item of the Equipment for a period not to exceed 10 days after the end of the Lease Period or termination of the Agreement before returning such item to AV. Lessee shall permit AV access to the Equipment for inspection during this time.



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6. Non-Disclosure of AV Proprietary Information and Limited Usage of Operational Data

- a. **Non-Disclosure of AV Proprietary Information.** For the purpose of this section, “AV Proprietary Information” means all information, not generally known, belonging to, or otherwise relating to the business of AV or its clients, customers, suppliers, vendors, licensors, licensees, consultants, affiliates or partners, regardless of the media or manner in which it is stored or conveyed, that AV has taken reasonable measures under the circumstances to protect from unauthorized use or disclosure. Proprietary Information includes but is not limited to trade secrets as well as other proprietary knowledge, information, and know-how; non-public intellectual property rights, including unpublished or pending patent applications and the status of their prosecution and all related patent rights; manufacturing techniques; processes; designs; drawings; improvements; ideas; conceptions; test data; compilations of data; and developments, whether or not patentable and whether or not copyrightable.

Any and all AV Proprietary Information supplied by AV to Lessee in connection with the Equipment shall be marked by AV as “AV Proprietary” and shall be held in strict confidence and shall not be shared with third parties without the express written permission of AV. The AV Proprietary Information specifically shall not include any information that is (a) already known to the Lessee at the time that it is disclosed or (b) has become publicly known through no wrongful act of the Lessee or (c) is rightfully received from a third party without restriction or (d) is independently developed by the Lessee prior to the receipt of the AV Proprietary Information; or (e) is furnished by AV to a third party without a similar restriction on disclosure.

Lessee agrees that it will not reverse engineer the Equipment, or, reverse engineer, decompile or disassemble or further disseminate any software integrated into the Equipment. This requirement applies regardless of whether such Equipment or software is marked “AV Proprietary.”

- b. **Confidentiality of Operational Data & Operational Feedback.** Lessee acknowledges that, as partial consideration for use of the Equipment, Lessee is required to provide certain information pursuant to Section 5.b. “Frequency of Usage & Reporting” above. The information provided by Lessee to AV shall be deemed AV Proprietary Information and treated as such to the extent that it constitutes “Operational Data” or “Design Data.”

“Operational Data” is defined as any data or copyrightable works created by the Lessee or any of its employees, agents, or representatives, including verbal, written, or photographic works, that describe, report or demonstrate the performance of the Equipment, including the relationship between Equipment performance and environmental or physical conditions.

“Design Data” is defined as data that reveals information about the design, construction or method of operation of the Equipment, as well as feedback and/or suggestions from Lessee employees, agents or representatives that apply to the technical design, construction, or method of operation of the Equipment or Training. This does not include feedback related to general functionality, but only to technical design and construction.

- c. **Authority to Share Information.** As a participant in the NIJ-ATP, Lessee may share written reports that include Operational Data with the NIJ-ATP as required by the program, provided that such data does not disclose any (a) Technical Data, as defined in the U.S. export regulations (22 U.S. Code of Federal Regulations Chapter 1 Section 120.10) (b) Design Data, or (c) any AV Proprietary Information supplied by AV to Lessee. Examples of information that may be shared with NIJ-ATP include: number and frequency of flights and operations, length of operations, environmental conditions during operations, names of operators and observers, maintenance issues, mission descriptions, descriptions of the utility of the Equipment as applied to such missions, and tactical and operational expertise gained as a result of missions. Lessee may also share with NIJ-ATP feedback regarding potential functional enhancements. Lessee will provide a copy to AV of all information shared with NIJ.



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7. Insurance and Assumption of Liability and Indemnification.

- a. **Insurance.** Lessee will, at its own expense, insure for the following risks with an insurer acceptable to AV: (i) all risk of loss and physical damage to the Equipment in an amount not less than the greater of (a) the fair market replacement value of the Equipment and (b) the Casualty Value of the Equipment; and (ii) comprehensive aviation liability insurance for bodily injury and property damage with a combined single limit of \$2,000,000 for any one accident. Such insurance shall be in full force and effect by not later than the date on which AV ships the Equipment and shall remain in effect through the end of the Lease Period. Such insurance shall include AV as an additional party insured and loss payee, and provide that such policy shall not be cancelable without providing thirty (30) days prior written notice to AV. Lessee shall deliver to AV a valid Certificate of Insurance evidencing such coverage, and any additional data related to the insurance, prior to shipment of Equipment.
- b. **COA Requirements.** As stipulated in the applicable Certificate of Waiver or Authorization (COA), Lessee shall be responsible at all times for collision avoidance with non-participating aircraft and the safety of persons or property on the surface with respect to the Equipment.

8. Disclaimer of Warranties; Limitation of Remedies

- a. **Limited Warranty on Equipment.** AV warrants that the Equipment shall be free from defects in materials and workmanship under normal use and service and shall perform in accordance with AV's published specifications during the Term. The warranty in the preceding sentence is subject to the following: AV's obligations shall be limited solely to the repair or replacement, at AV's option and at AV's cost, of the defective parts. Repairs or replacement deliveries shall not interrupt or extend the term of this warranty unless the Term is extended as a result thereof. This warranty does not apply to any Equipment that has been modified, altered or repaired by persons other than those trained, authorized and approved by AV. This warranty is made on condition that the Lessee operates the Equipment in accordance with AV's operating manuals and gives AV prompt written notice of any defect. AV MAKES NO OTHER WARRANTIES, EXPRESS OR IMPLIED, AND ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR PARTICULAR PURPOSE IS HEREBY DISCLAIMED.
- b. **Warranty of Title.** AV hereby represents and warrants to Lessee that AV has sufficient right, title and interest in the Equipment to enter into this Agreement with Lessee.
- c. **Limitation of Liability.** NEITHER PARTY SHALL BE LIABLE FOR ANY LOST REVENUE OR ANTICIPATED PROFITS OR ANY INCIDENTAL, INDIRECT, SPECIAL OR CONSEQUENTIAL DAMAGES RESULTING FROM THE USE OR INABILITY TO USE THE EQUIPMENT, EVEN IF THAT PARTY OR ITS AUTHORIZED REPRESENTATIVE HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.
- d. **Product Liability.** Nothing in this Section or any other provision of this Agreement is intended to transfer to Lessee any of AV's obligations under applicable laws regarding product liability.

9. Ownership and Risk of Loss

- a. **Ownership.** The Equipment shall at all times remain the property of AV or its assigns. By this Agreement, Lessee acquires no ownership rights in the Equipment. AV may affix (or require Lessee to affix) tags, decals, or plates to the Equipment indicating AV's ownership, and Lessee shall not permit their removal or concealment. Per FAA requirements, this Agreement is intended to satisfy the requirement for the aircraft to be leased for a period of more than 90 days so it is considered a public aircraft.
- b. **Designs and Trade Secrets.** All right, title and interest in any drawings, data, designs, software programs or other technical information supplied by AV to Lessee in connection with the lease of the Equipment shall remain with AV.



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- c. No Liens. LESSEE SHALL KEEP THE EQUIPMENT AND LESSEE'S INTEREST UNDER THIS AGREEMENT FREE AND CLEAR OF ALL LIENS AND ENCUMBRANCES, EXCEPT THOSE PERMITTED BY AV OR ITS ASSIGNS.
- d. Access. AV, its assigns and their agents shall have free access to the Equipment at all reasonable times and upon reasonable notice during normal business hours for the purpose of inspecting the Equipment and for any other purpose contemplated in this Agreement.
- e. Risk of Loss. From and after the date the Equipment is delivered to Lessee and until the Equipment is returned to AV as provided in the Agreement, Lessee shall bear all risk of loss, damage, theft, or destruction to the Equipment not caused by authorized use of the Equipment in accordance with the Operator's Manual and Training. If any item of Equipment is rendered unusable as a result of any physical damage to or destruction of the Equipment as a result of such unauthorized use, or if any item of Equipment is lost or stolen, then Lessee shall give AV immediate notice thereof and AV shall determine and notify Lessee, within fifteen (15) days after the date of occurrence of such damage or destruction, whether such item of Equipment can be repaired. If AV determines that such item of Equipment can be repaired for an amount equal or less than the current fair market value of the Equipment, Lessee shall, return the item of Equipment to be repaired by AV at Lessee's expense. If AV determines that the item of Equipment cannot be repaired; or the cost of repair would exceed the current fair market value of the Equipment; or if the item of Equipment is lost or stolen, then Lessee shall pay AV an amount equal to the fair market value of the Equipment as determined in good faith by AV, and AV may terminate this Agreement without further obligation by either party. All proceeds of insurance received by Lessee under any insurance policy shall be applied toward the cost of any such repair or replacement.

10. Events of Default; Remedies

- a. Events of Default. The occurrence of any one or more of the following events (each an "*Event of Default*") shall constitute a default under this Agreement:
 - i. Use & Reporting Requirements. Lessee breaches any of the requirements of Section 5.b.;
 - ii. Spare Parts Usage. The cost of spare parts and/or repair costs expended by AV to repair the Equipment under Section 5.c. throughout the Lease Period exceeds \$25,000.
 - iii. Transfers. Except as expressly provided herein, Lessee attempts to, or does, remove, sell, assign, transfer, encumber, sublet, or part with possession of any one or more items of the Equipment, or any interest under this Agreement except as expressly permitted herein.
 - iv. Attachment; Abandonment. Through the act or omission of Lessee, any item of Equipment is subject to any levy, seizure, attachment, assignment, or execution; or Lessee abandons any item of Equipment.
 - v. Other Obligations. If either party shall fail to observe or perform any of the other obligations required to be observed or performed by such party hereunder and any of the foregoing events shall continue uncured for ten (10) days after written notice thereof is given to the party in breach.
 - vi. Involuntary Proceedings. Within thirty (30) days after the commencement of any proceedings against either party seeking reorganization, arrangement, readjustment, liquidation, dissolution, or similar relief under any present or future statute, law or regulation, such proceedings shall not have been dismissed.
- b. Remedies. Upon the occurrence of any Event of Default, the non-defaulting party shall have the option, with or without giving notice to the other party to do any one or more of the following:
 - i. Enforcement. Enforce this Agreement according to its terms.
 - ii. Termination. Either party may terminate this Agreement upon the breach of the other party upon 30 days written notice to the breaching party and the breach is not cured within the time set forth in section 10.a., or if no time is specified, within 30 days.
 - iii. Damages: Each party shall remain fully liable for and shall pay, the other party, as applicable for (i) all sums due and payable under this Agreement for all periods up to and including the date on which the default occurs; (ii) all costs and expenses incurred by the non-defaulting party on account of such default, including, but not



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limited to, all court costs and reasonable attorney's fees; and (iii) all reasonable damages as provided by law (collectively "Damages").

- iv. Possession of Equipment. Upon termination of this Agreement, (i) AV may take possession of any or all of the Equipment, wherever situated and for such purpose, AV may enter upon any Lessee's premises upon reasonable notice to Lessee without any court order and without liability for so doing; and/or (ii) Lessee may return the Equipment to AV as provided in this Agreement.
- c. Nonexclusive Remedies. Either party may exercise any and all rights and remedies available at law or in equity, including those available under the Uniform Commercial Code (including sections thereof dealing with leases) as enacted in the state in which the Equipment is located; or other applicable law. The right and remedies afforded AV hereunder shall not be deemed to be exclusive, but shall be in addition to any rights or remedies provided by law. One party's failure to promptly enforce any right hereunder shall not operate as waiver of such right, and at that party's waiver of any default shall not constitute a waiver of any subsequent or other default. AV may accept late payments or partial payments of amount due under this Agreement and may delay enforcing any of AV's rights hereunder without losing or waiving any of AV's rights under this Agreement.

11. Publicity

Lessee shall consult with AV regarding the public disclosure, including but not limited to, news releases, advertisements, or public announcements concerning this Agreement or the Program or its relationship with AV.

12. General

- a. Assignment. Lessee shall not directly or indirectly, voluntarily or by operation of law, sell, assign, encumber, pledge or otherwise transfer or hypothecate all or any part of the Equipment (collectively, "Assignment"), or permit the Equipment to be used by anyone other than Lessee or sublease the Equipment or any portion thereof (collectively, "Sublease"), without AV's prior written consent in each instance, which consent shall not be unreasonably withheld. No consent by AV to any Assignment or Sublease by Lessee shall relieve Lessee of any obligation to be performed by Lessee under this Agreement, whether arising before or after the Assignment or Sublease. The consent by AV to any Assignment or Sublease shall not relieve Lessee from the obligation to obtain AV's express written consent to any other Assignment or Sublease. Any Assignment or Sublease that is not in compliance with this Section shall be void and, at the option of AV, shall constitute a breach of this Agreement.
- b. Entire Agreement. This Agreement constitutes the entire agreement between the parties with respect to the subject matter hereof.
- c. Modification. This Agreement may not be amended or modified except in writing, signed by a duly authorized representative of each party.
- d. Interpretation. The provisions of this Agreement shall be deemed to be independent and severable. The invalidity or partial invalidity of any one provision or portion of this Agreement under the laws of any jurisdiction shall not affect the validity or enforceability of any other provision of this Agreement. The captions and headings set forth herein are for convenience of reference only and shall not define or limit any of the terms hereof.
- e. Notices. All notices, requests and communications required or permitted hereunder shall be in writing and shall be sufficiently given and deemed to have been received upon personal delivery or delivery by express courier such as FedEx or, if mailed, upon the first to occur of actual receipt or seventy-two (72) hours after being placed in the United States mail, postage prepaid, certified mail, receipt requested, addressed to the parties at the following addresses: (a) if to AV, to []; and (b) if to Lessee, to []. Notice of a change in address of one of the parties shall be given in writing to the other party as provided above, but shall be effective only upon actual receipt by the addressee and the person designated to receive a copy.
- f. Governing Law. This Agreement shall be governed by and shall be interpreted pursuant to the substantive laws of the State of Texas without regard to choice of law rules.



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- g. Waiver of Jury Trial. RESERVED.
- h. Jurisdiction; Venue. Each party to this Agreement irrevocably submits itself to the jurisdiction of state and federal courts located in Travis County, Texas. The venue for any enforcement or interpretation of this Agreement shall lie with those courts, and each party waives any objection that it might have to venue.
- i. Financing Statements and Fees. A photocopy of this Agreement shall be sufficient as, and may be filed as, an original financing statement. Lessee authorizes AV to file one or more financing statements describing the Equipment and appoints AV as Lessee's attorney-in-fact to execute any such financing statements if Lessee's signature is required in any relevant jurisdiction. Lessee will cooperate with AV in protecting AV's interests in the Equipment, this Agreement and the amounts due under the Agreement, including, without limitation, the execution and delivery of Uniform Commercial Code statements and filings and other documents requested by AV. Lessee will execute and deliver to AV such other documents and written assurances and take such further action as AV may request to more fully carry out the implementation, effectuation, confirmation and perfection of the lease and any rights of AV thereunder. Financing Statements shall be terminated upon return of the Equipment.
- j. Provisional Security Interest. In the event a court of competent jurisdiction or other governing authority shall determine that this Agreement is not a "true lease" or that AV (or its assigns) does not hold legal title to or is not the owner of the Equipment, then this Agreement shall be deemed to be a security agreement with Lessee, as debtor, having granted to AV, as secured party, a security interest in the Equipment effective the date of this Agreement; and AV shall have all of the rights, privileges and remedies of a secured party under the Texas Uniform Commercial Code.
- k. Attorney's Fees. Lessee shall reimburse AV for all charges, costs, expenses and attorney's fees incurred by AV in defending and protecting its interest in the Equipment against any and all claims arising solely through Lessee and in the enforcement of this Agreement or the collection of any past due rent or other payments past due under this Agreement.
- l. No Binding Arbitration. It is expressly understood that disputes between the parties are not required to be submitted to binding arbitration. The parties retain all legal and equitable remedies available under the laws of the state of Texas and other applicable law.

AeroVironment, Inc.

Austin Police Department

By: _____
Title: _____
Date: _____

By: _____
Title: _____
Date: _____



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SUAS EQUIPMENT LEASE AGREEMENT

EXHIBIT A
Equipment Schedule

1. Equipment to be provided to Lessee under this Agreement is one (1) Qube system, which contains the following:
 - a. One (1) air vehicle (consisting of one (1) fuselage assembly and two (2) motor arm assemblies)
 - b. Four (4) air vehicle batteries
 - c. One (1) spare fuselage assembly
 - d. Two (2) spare motor arm assemblies
 - e. One (1) color camera payload
 - f. One (1) color camera and thermal camera payload
 - g. One (1) tablet-based Ground Control Station (GCS)
 - h. Two (2) GCS batteries
 - i. One (1) charger for air vehicle and GCS batteries
 - j. One (1) Field Repair Kit for field-repair and maintenance of system
 - k. One (1) external hard drive for backup of flight data and videos/images
 - l. Spare parts and consumable parts needed for operation of the system
2. Training to be provided includes
 - a. One (1) Operator-level training session for no more than four (4) sworn law enforcement officers employed by the Lessee
 - b. Training will be combination of non-classroom training and in-person flight training
 - c. Training to be conducted at Lessee's location (covered by a COA)
 - d. Training to be conducted using the Equipment to be provided to Lessee

Term: From the signature of the Agreement through the end of the Lease Period.

Lease Period: The initial Lease Period shall be six (6) months from the beginning of the Lease Period (see Section 2 for definition of the beginning of the "Lease Period"). The Lease may be renewed for an additional six (6) months upon the mutual agreement of the Parties.

Lease Period Payment: \$1.00

Location of storage of Equipment: _____

Lessee individual responsible for official receipt of shipped Equipment: _____



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EXHIBIT B
Logbook Information

The information below is an example of the type of information required to be entered for each mission or flight in the provided air vehicle's logbook. Additional items may be added to the logbook in the future as operational use reveals the need for additional information that should be recorded and logged.

OPERATING AGENCY:

DATE (mm/dd/yy): ____/____/____

TIME:

LOCATION:

TIME ZONE:

TEMPERATURE: ____ °F

MISSION:

NAME OF UAS OPERATOR:

NAME OF OBSERVER:

NAME(S) OF REPRESENTATIVES FROM OTHER AGENCIES PRESENT DURING OPERATION:

FIELD ALTITUDE: ____ ft MSL

WIND SPEED & DIRECTION: ____ kts @ ____

AIR VEHICLE FUSELAGE S/N:

AIR VEHICLE BATTERY S/N:

MOTOR ARM S/N: ____ FRONT; ____ REAR

PAYLOAD S/N:

WAS IR CAMERA USED?:

GROUND CONTROL STATION S/N:

TABLET S/N:

RECORDED FILE NAME:

FLIGHT TIME: ____ min

of TAKEOFFS:

of LANDINGS:

MAX. RANGE: ____ km

AVERAGE OPERATIONAL ALTITUDE: ____ ft AGL

FLIGHT NOTES:

POST FLIGHT DAMAGE (IF ANY):

ITEMS USED FROM FIELD REPAIR KIT AND OTHER MAINTENANCE NOTES:



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Small Unmanned Aircraft System Evaluation Program for Law Enforcement and Public Safety Agencies

AeroVironment, Inc. (AV), in cooperation with the U.S. National Institute of Justice's Aviation Technology Program (NIJ-ATP), is establishing a Program for law enforcement and other public safety agencies to evaluate the utility of Small Unmanned Aircraft System (SUAS) in public safety missions.

This Program is being conducted in cooperation with the NIJ-ATP. Additional information about NIJ-ATP can be found at:

<http://www.nij.gov/topics/law-enforcement/operations/aviation/welcome.htm> and <https://www.justnet.org/aviation/program.html>.

Agencies who are participants in AV's Program will also be participants in the NIJ-ATP and will provide valuable feedback to NIJ and DOJ for operational utility of SUAS in law enforcement and public safety applications. The type of information shared with NIJ-ATP is defined in a separate agreement between participating agencies and NIJ-ATP.

As part of this Program, AV will lease one Qube system to participating agencies and will provide training and operational/repair/spare parts support during the Lease Period. The table below provides a brief summary of the most relevant aspects of the Lease Agreement between AV and participating agencies. Please note that the official Lease Agreement is the governing document for this Program – the table provided below is shown purely for summary and reference purposes.

Lease Requirement or Description	Lease Agreement Reference
AV leases one Qube SUAS and operational spares to Lessee for two consecutive periods of 6 months (12 months total) for a one-time lease payment of \$1 (one U.S. dollar).	1, 3, Exhibit A
The Lease Period starts when the Equipment is delivered, after FAA Certificate of Authorization (COA) is approved and after AV online training is completed.	2
AV provides operator training for up to 4 operators.	4(a)
AV provides operational support and repair/spare part support during the Lease Period.	4(b), 5(c)
Only "Approved UAV Operators" who are employees of Lessee may operate Equipment and they must meet COA requirements and maintain minimum flight currency requirements. "Observers" must also be provided by Lessee to satisfy COA requirements.	5(a)
The Equipment must be operated at least 4 flight hours per month averaged over 3 months.	5(b) i
Lessee agrees to record flight and mission information in a provided logbook and record data/video/images and agrees to share this information with AV (in compliance with privacy laws and/or evidentiary procedures).	5(b) iii-iv
Lessee agrees to provide feedback to AV and participate in at least one roundtable discussion (including supporting at least one representative to attend this roundtable discussion at/near Washington D.C.).	5(b) v-vi
Lessee agrees to operate and maintain the system as specified in Operator's Manual and AV-provided training.	5(d)
Equipment shall be protected from access by Foreign Nationals in accordance with Dept. of State ITAR regulations.	5(f)
Lessee agrees to protect AV proprietary data.	6
Lessee agrees to carry property and liability insurance for operation of the Equipment.	7
Lessee agrees to take responsibility for risk of loss or damage to Equipment (for loss or damage not related to authorized operation of the Equipment).	9(e)
Lessee agrees to consult with AV regarding public announcements related to the Equipment or this Program.	11

Questions regarding this program should be addressed to:

Gabriel Torres
Qube Program Manager
Email: torres@avinc.com
Phone: 805-581-2198 x1427
900 Enchanted Way, Simi Valley, CA 93065